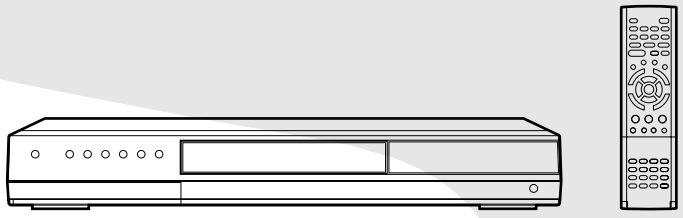
TOSHIBA

FILE NO. 810-200512

SERVICE MANUAL

HDD/DVD VIDEO RECORDER

RD-XS34SB
RD-XS34SF
RD-XS34SG



Feb., 2005 Ⓢ

LASER BEAM CAUTION LABEL

CLASS 1 LASER PRODUCT	APPAREIL A LASER DE CLASSE 1
CAUTION - Laser radiation when open. DO NOT STARE INTO BEAM. ATTENTION - RAYONNEMENT LASER EN CAS D'OUVERTURE. NE PAS REGARDER DANS LE FAISCEAU.	
DANGER - Invisible Laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM. ATTENTION - RAYONNEMENT LASER INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.	

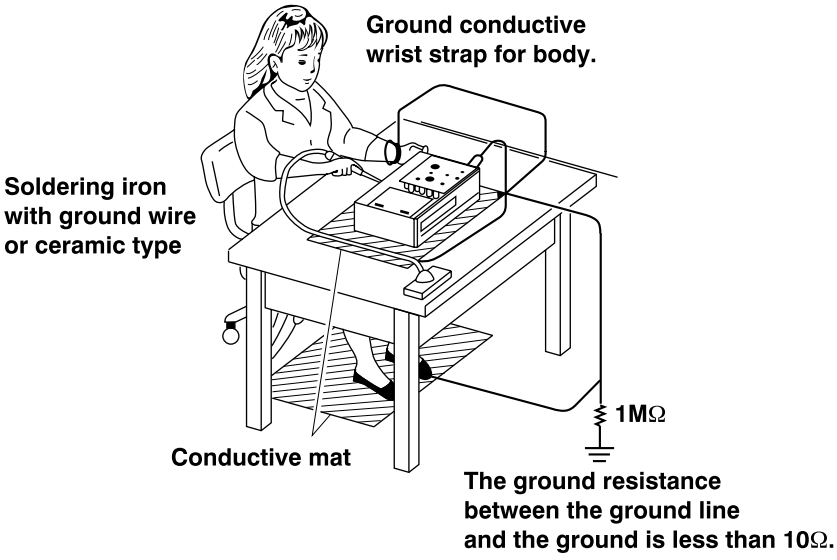
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of a laser may be received.

PREPARATION OF SERVICING

Pickup Head consists of a laser diode that is very susceptible to external static electricity.

Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened. When replacing, use a conductive mat, soldering iron with ground wire, etc. to protect the laser diode from damage by static electricity.

And also, the LSI and IC are same as above.



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SECTION 1
GENERAL DESCRIPTIONS

1. OPERATING INSTRUCTIONS

Please refer to the owner's manual about the contents.

2. LOCATION OF MAIN PARTS

2-1. Location of Main Parts

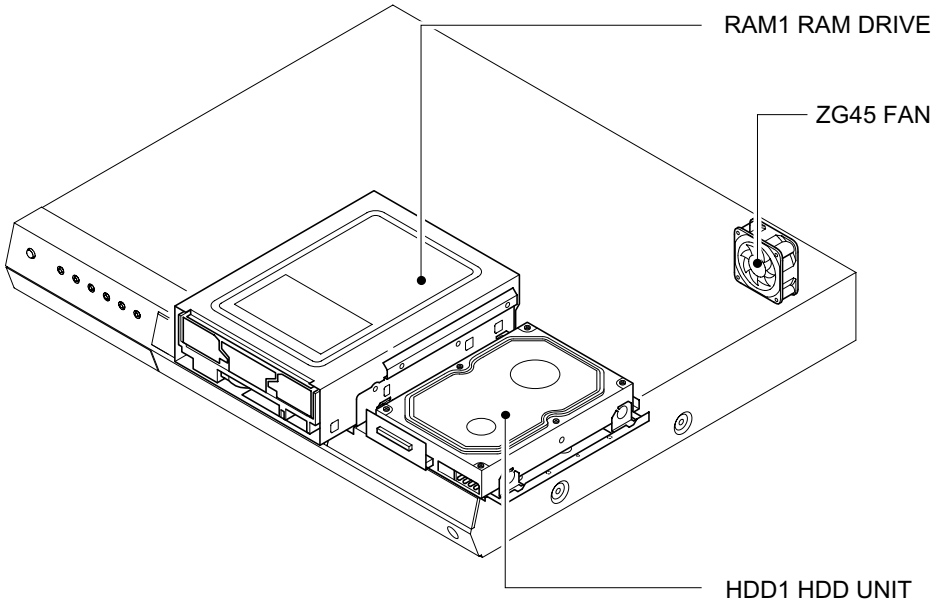

Fig. 1-2-1

2-2. Location of PC Boards

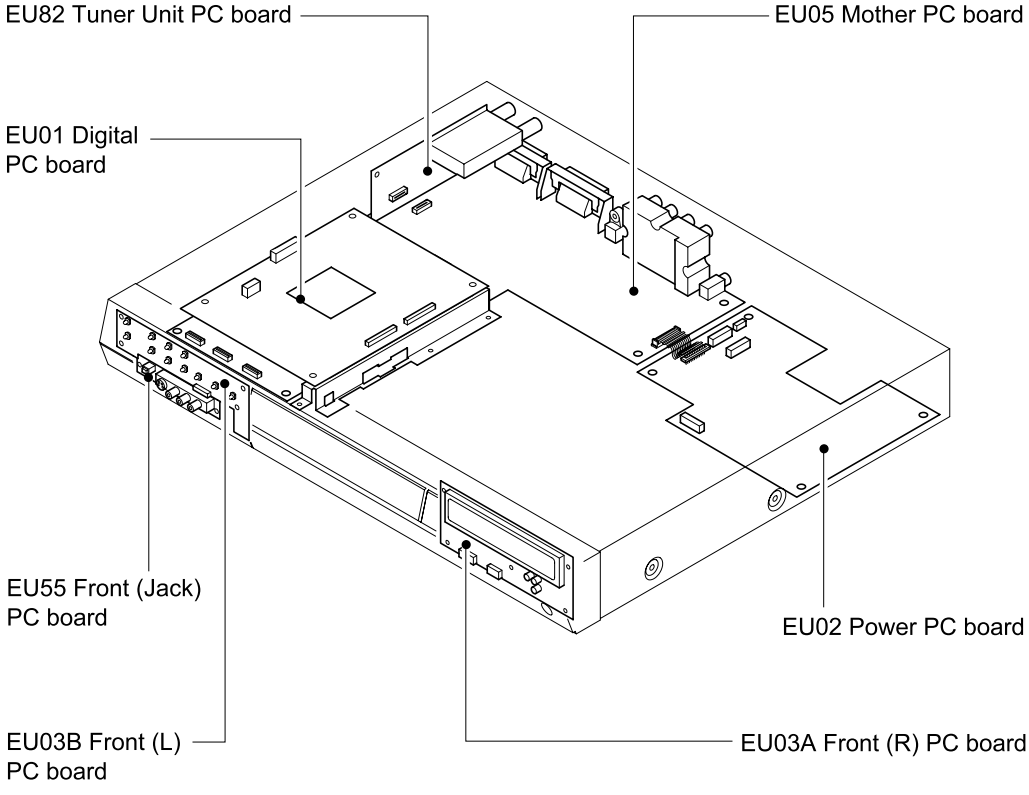

Fig. 1-2-2

SECTION 2
PART REPLACEMENT AND ADJUSTMENT PROCEDURES

CAUTIONS BEFORE STARTING PART REPLACEMENT

Electronic parts are susceptible to static electricity and may easily damaged, so do not forget to ground as required. Many screws are used inside the unit. To prevent the screws from missing or dropping, etc. always use a magnetized screwdriver in servicing. Several kinds of screws are used and some of them need special cautions. That is, take care of the tapping screws securing molded parts and fine pitch screws used to secure metal parts. If they are used improperly, the screw holes will be easily damaged and the parts can not be fixed.

1. REPLACEMENT OF MECHANICAL PARTS

1-1. Cabinet Replacement

1-1-1. Top Cover

1. Remove seven screws (1), then remove the top cover (2).

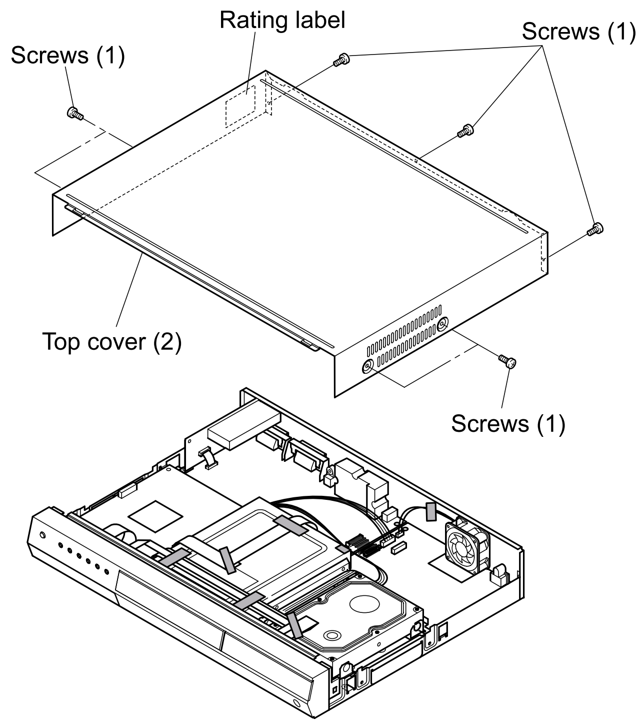

Fig. 2-1-1

Note:

There is a rating label applied on the top cover.

When the top cover is replaced with a new one, put a new rating label on the new top cover.

Transcribe the following items (Model No., serial No., power supply/power requirement etc.) described on the old rating label to the new rating label by using a permanent marker.

1-1-2. HDD

1. Remove the top cover. (Refer to item 1-1-1.)
2. Peel off the tape (1).
3. Remove four screws (2).
4. Disconnect the flexible cable (3) and the connector (4).
5. Remove four screws (5) and four dampers (7), then remove the HDD (8).

Note:

- After replacing, attach the tape (1) to its original position.

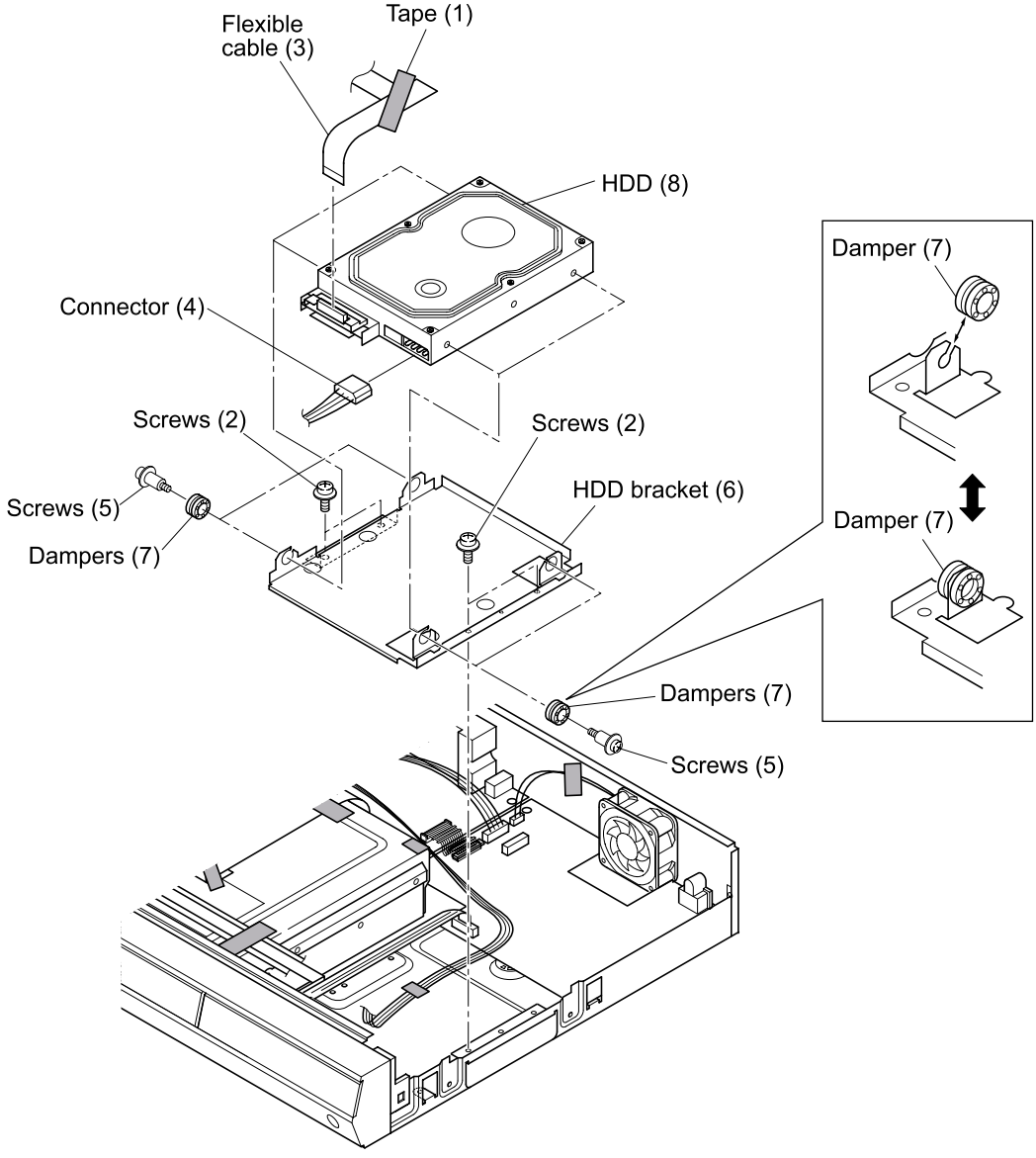

Fig. 2-1-2

1-1-3. Front Panel

1. Remove the top cover. (Refer to item 1-1-1.)
2. Peel off three tapes (1).
3. Disconnect two connectors (2) and two flexible cables (3).
4. Remove two screws (4) and four claws, then remove the front panel (5).

Note:

- After replacing, attach the tape (1) to its original position.

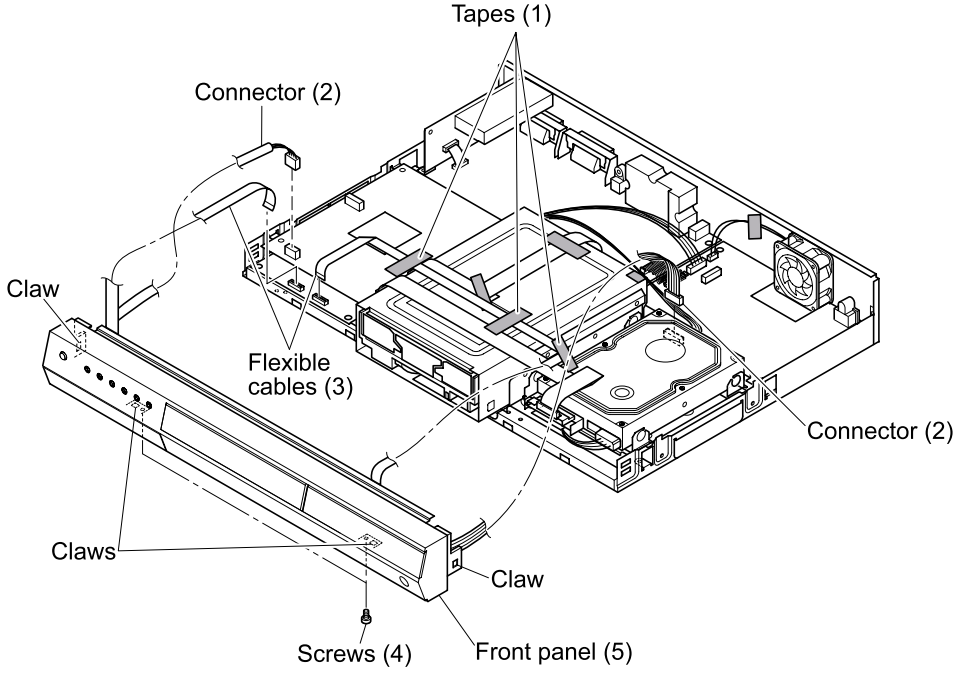

Fig. 2-1-3

1-1-4. RAM Drive

1. Remove the front panel. (Refer to item 1-1-3.)
2. Peel off three tapes (1).
3. Disconnect the flexible cable (2) and the connector (3).
4. Remove three screws (4), then remove the RAM drive (5).
5. Remove four screws (6), then remove the RAM drive bracket (7).

Note:

- After replacing, attach the tape (1) to its original position.

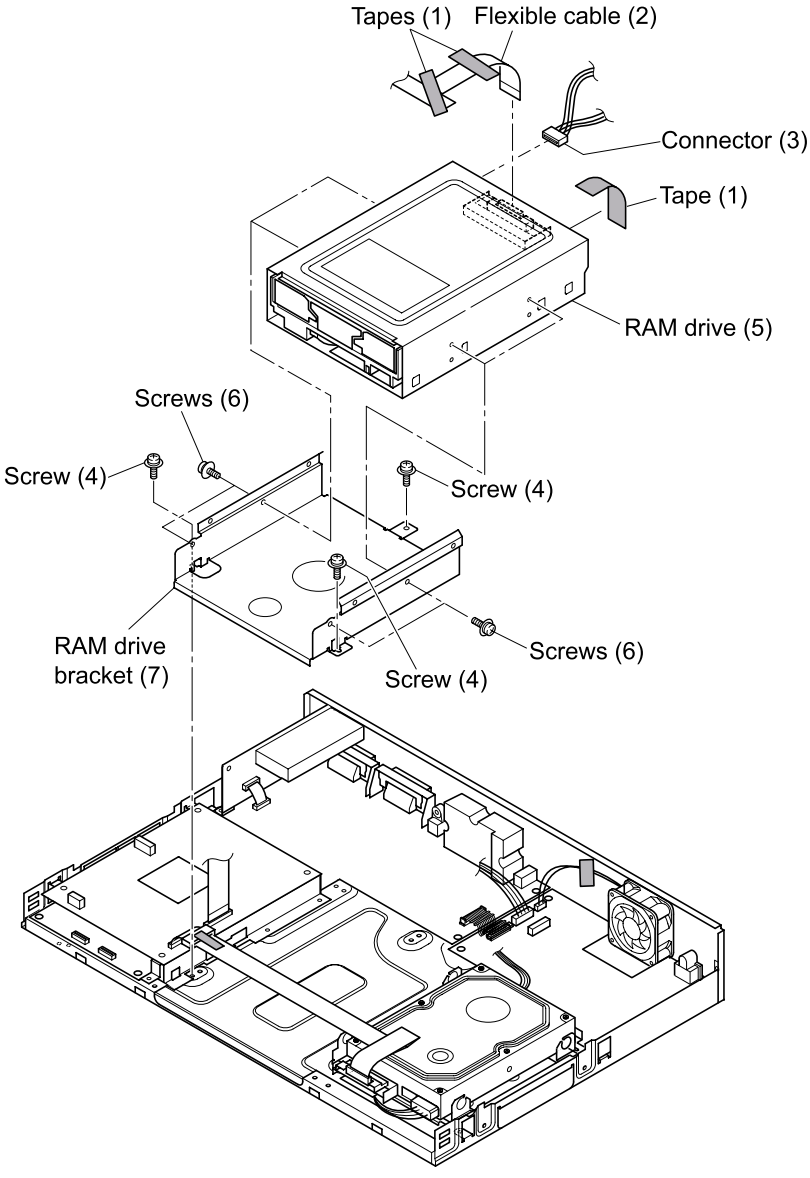

Fig. 2-1-4

1-1-5. Rear Panel

1. Remove the top cover. (Refer to item 1-1-1.)
2. Peel off the tape (1).
3. Remove the screw (2), four screws (3) and five screws (4).
4. Remove two claws, then remove the rear panel (5).
5. Remove two screws (6), them remove the fan (7).

Note:

- After replacing, attach the tape (1) to its original position.

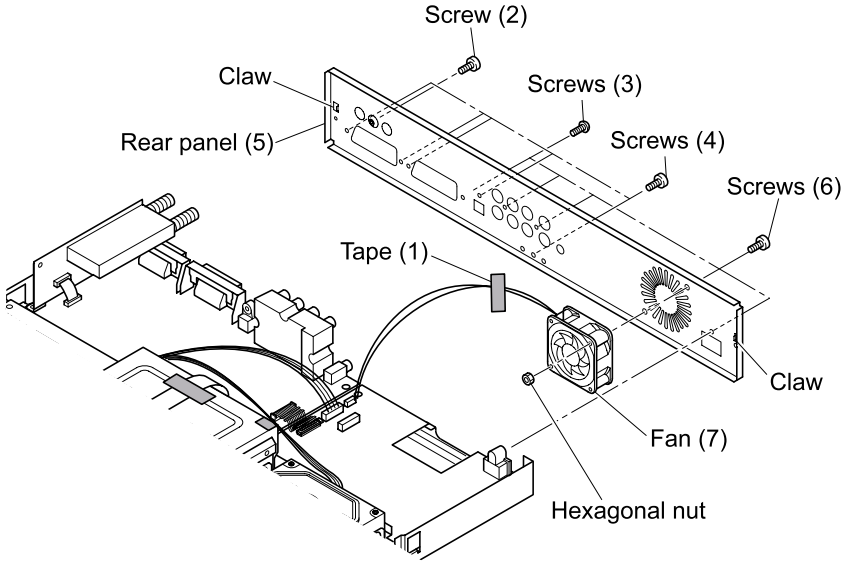

Fig. 2-1-5

1-1-6. Fan

1. Remove the top cover. (Refer to item 1-1-1.)
2. Peel off the tape (1).
3. Remove the connector (2).
4. Remove two screws (3), then remove the fan (4).

Note:

- After replacing, attach the tape (1) to its original position.

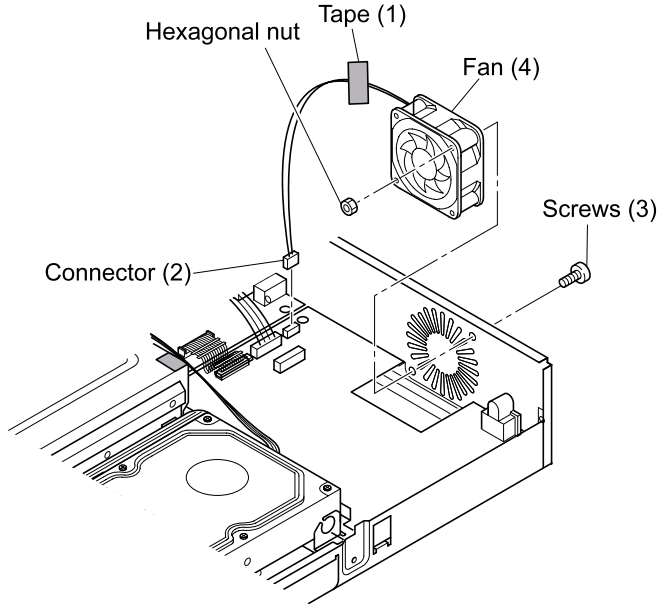

Fig. 2-1-6

1-2. PC Board Replacement

1-2-1. Tuner Unit PC Board

1. Remove the top cover. (Refer to item 1-1-1.)
2. Remove the screw (1) and the screw (2).
3. Remove the claw, then remove the Tuner Unit PC board (3).
4. Disconnect the flexible cable (4).

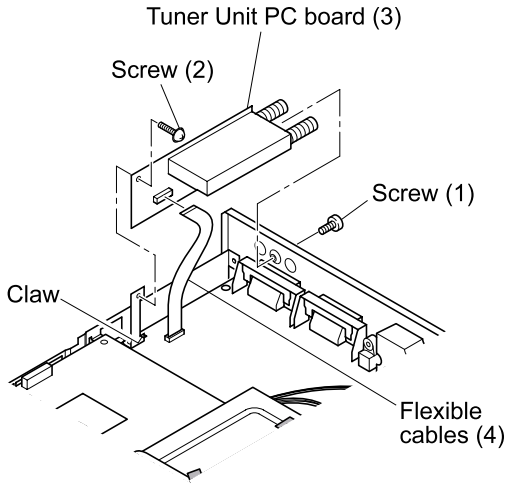

Fig. 2-1-7

1-2-2. Digital PC Board

1. Remove the top cover. (Refer to item 1-1-1.)
2. Disconnect two flexible cables (1) and the connector (2).
3. Remove four screws (3), then remove the Digital PC board (4).

Note:

- The Digital PC board (4) is connected to the Mother PC board (5) by three connectors (6). Take notice when removing.

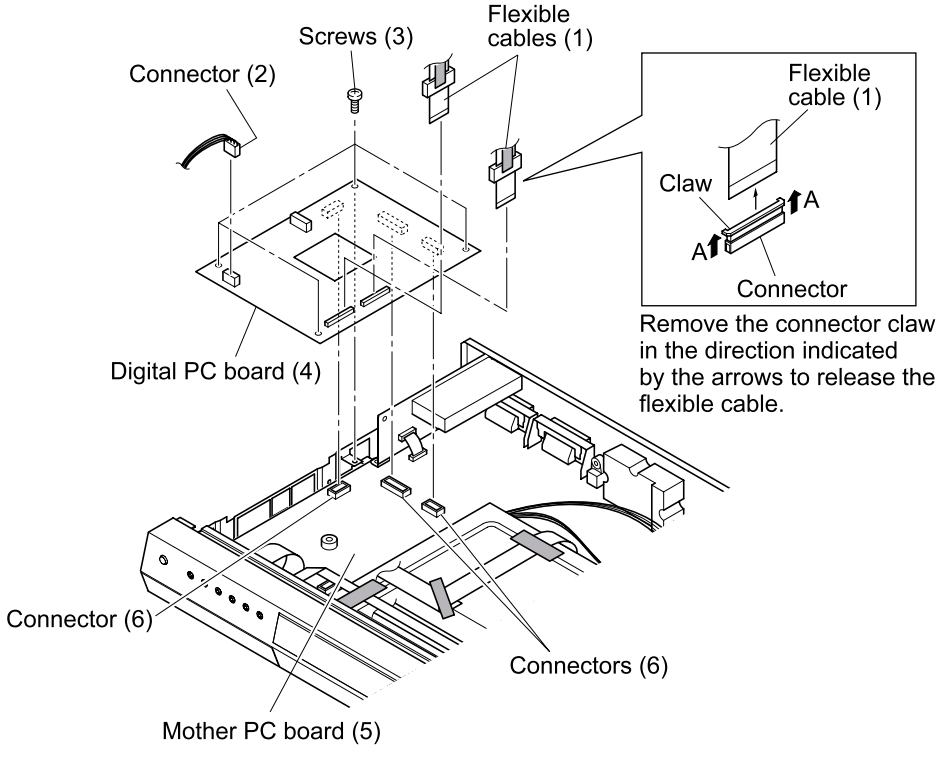

Fig. 2-1-8

1-2-3. Mother PC Board

1. Remove the Front panel. (Refer to item 1-1-3.)
2. Remove the Rear panel. (Refer to item 1-1-5.)
3. Remove the Tuner Unit PC board. (Refer to item 1-2-1.)
4. Remove the Digital PC board. (Refer to item 1-2-2.)
5. Disconnect the flexible cable (1) and the connector (2).
6. Remove six screws (3), then remove the Mother PC board (4).

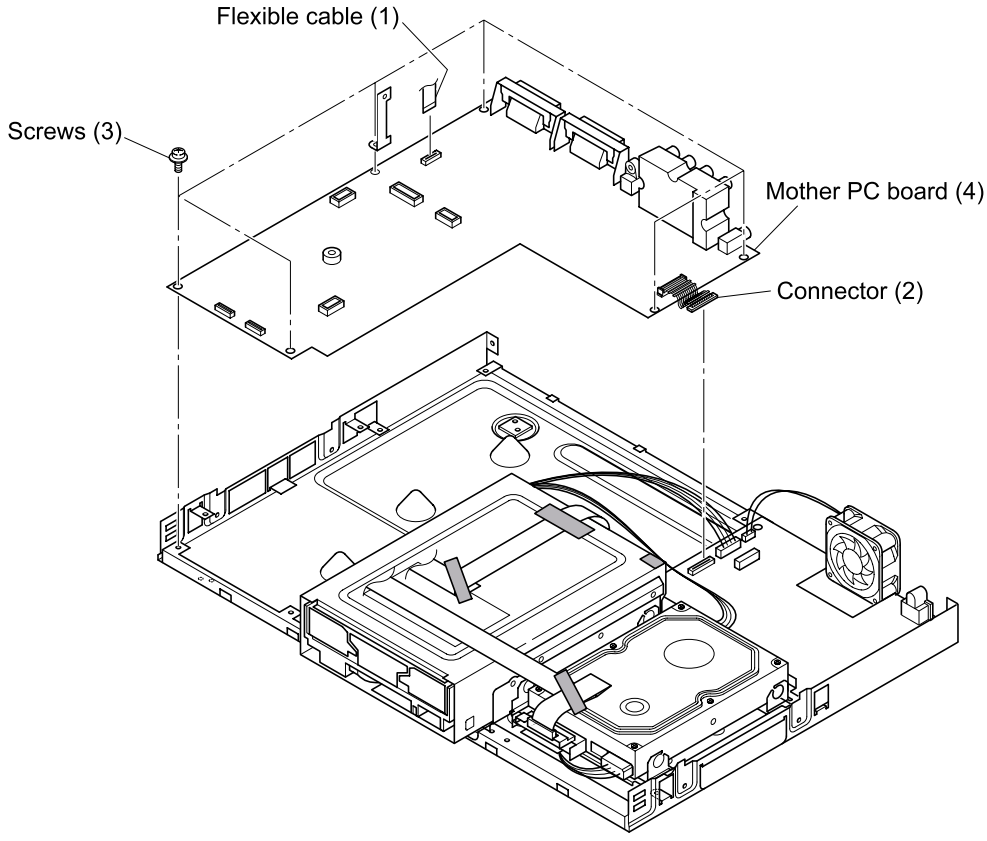

Fig. 2-1-9

1-2-4. Power PC Board

Cautions :

- **Danger of explosion if battery is incorrectly replaced.**
- **Replace only with the same or equivalent type.**

1. Remove the top cover. (Refer to item 1-1-1.)
2. Disconnect three connectors (1) and the connector (2).
3. Remove three screws (3) and the screw (4), then remove the Power PC board (5).

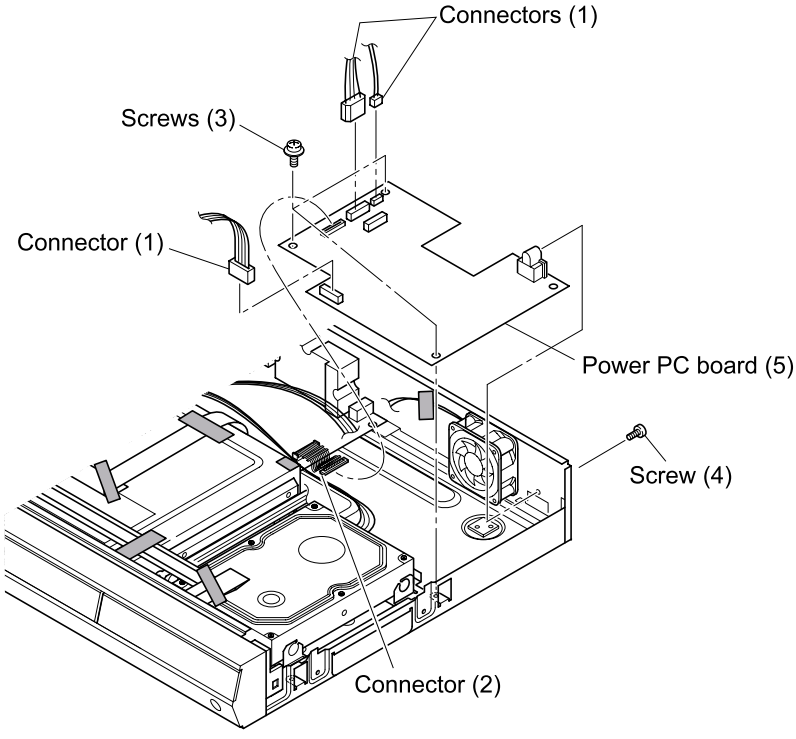

Fig. 2-1-10

1-2-5. Front (R), Front (L) and Front (Jack) PC Boards

1. Remove the front panel. (Refer to item 1-1-3.)
2. Peel off two tapes (1).
3. Remove four screws (2), then remove the stay (3).
4. Remove four screws (4), then remove the Front (R) PC board (5).
5. Remove two screws (6), then remove the Front (Jack) PC board (7).
6. Remove four screws (8), then remove the Front (L) PC board (9).

Note:

- After replacing, attach the tape (1) to its original position.

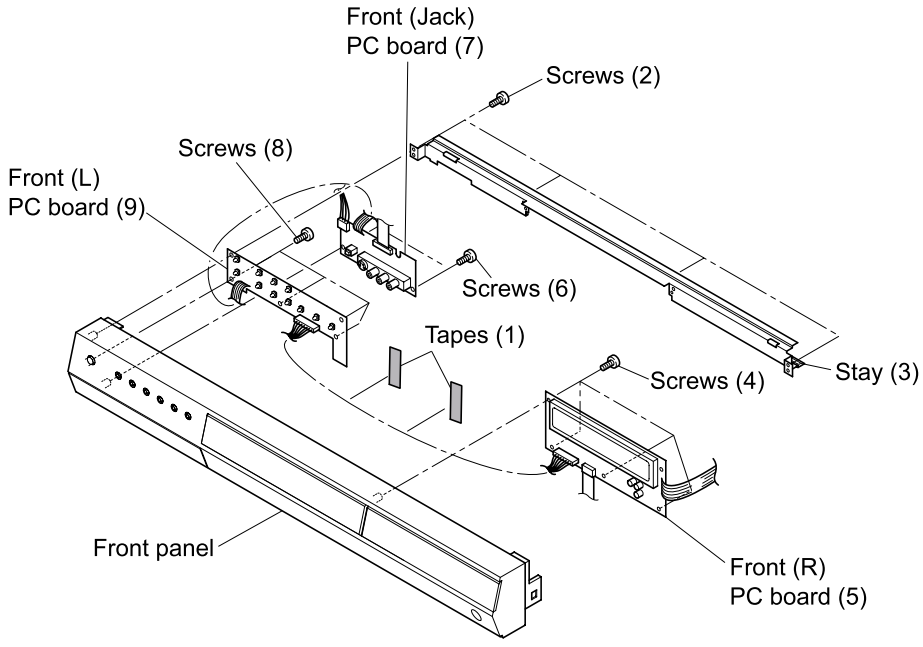

Fig. 2-1-11

Note:

- Fasten with the tape, taking care so that the wire does not hang over the tray door.

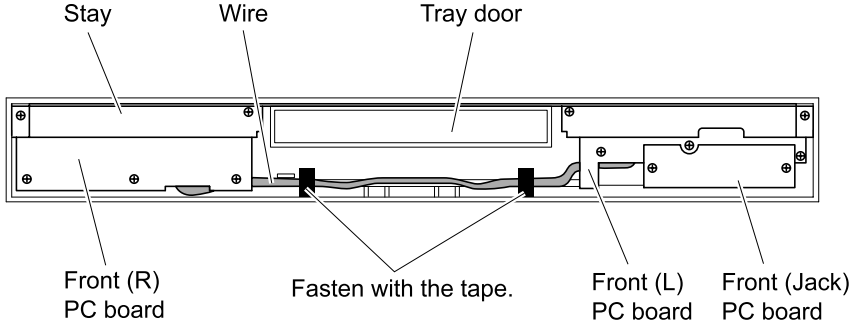

Fig. 2-1-12

2. WIRING CONNECTION DIAGRAM

After the servicing is complete, return the wiring to its original state by using the diagram below as a reference.

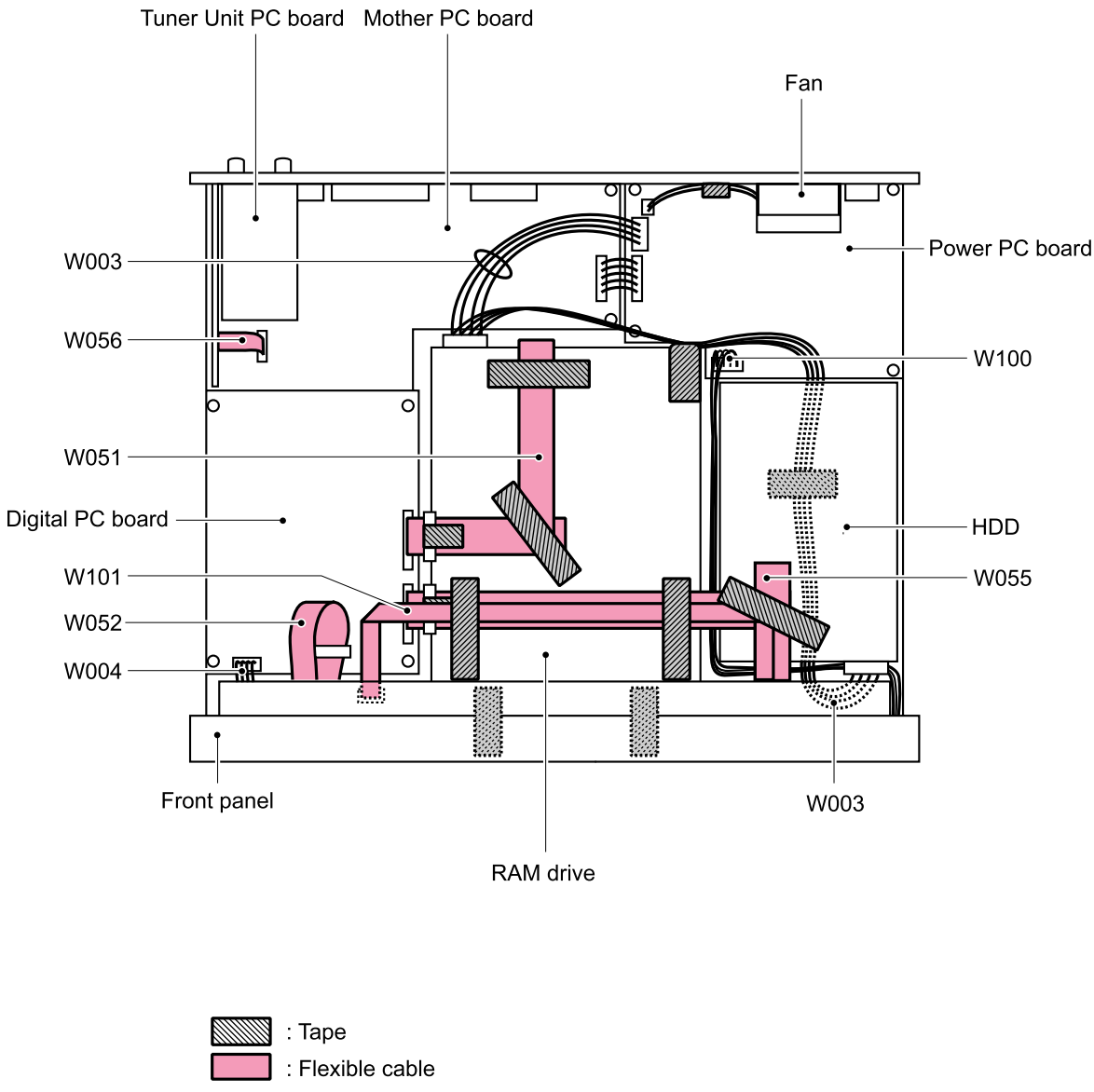

Fig. 2-2-1

SECTION 4
PARTS LIST

SAFETY PRECAUTION

The parts identified by ! (⚠) mark are critical for safety. Replace only with part number specified.

The mounting position of replacement is to be identical with originals.

The substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

NOTICE

The part number must be used when ordering parts in order to assist in processing, be sure to include the model number and description.

ABBREVIATIONS

- **Integrated Circuit (IC)**
- **Capacitor (Cap)**
  - **Capacitance Tolerance (for Nominal Capacitance more than 10pF)**

Table 4-2-1

Symbol	B	C	D	F	G	J	K	M	N
Tolerance %	± 0.1	± 0.25	± 0.5	± 1	± 2	± 5	± 10	± 20	± 30

Symbol	P	Q	T	U	V	W	X	Y	Z
Tolerance %	+ 100 0	+ 30 – 10	+ 50 – 10	+ 75 – 10	+ 20 – 10	+ 100 – 10	+ 40 – 20	+ 150 – 10	+ 80 – 20

Ex. 10µF J = 10µF ± 5%

  - **Capacitance Tolerance (for Nominal Capacitance 10pF or less)**

Table 4-2-2

Symbol	B	C	D	F	G
Tolerance pF	± 0.1	± 0.25	± 0.5	± 1	± 2

Ex. 10pF G = 10pF ± 2pF

- **Resistor (Res)**
  - **Resistance tolerance**

Table 4-3-1

Symbol	B	C	D	F	G	J	K	M
Tolerance %	± 0.1	± 0.25	± 0.5	± 1	± 2	± 5	± 10	± 20

Ex. 470ΩJ = 470Ω± 5%

1. EXPLODED VIEWS

1-1. Packing Assembly

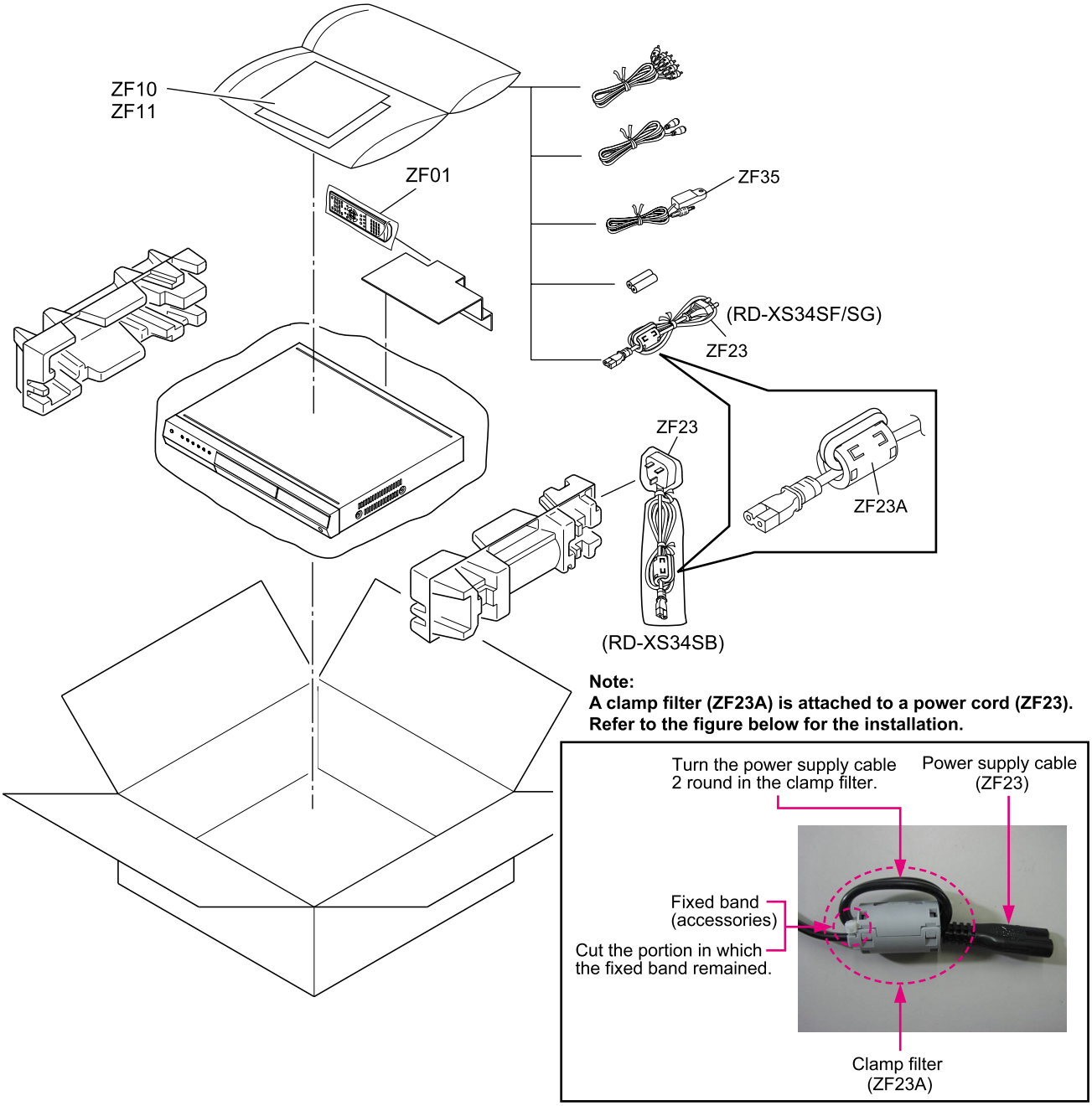

Fig. 4-4-1

1-2. Chassis Assembly

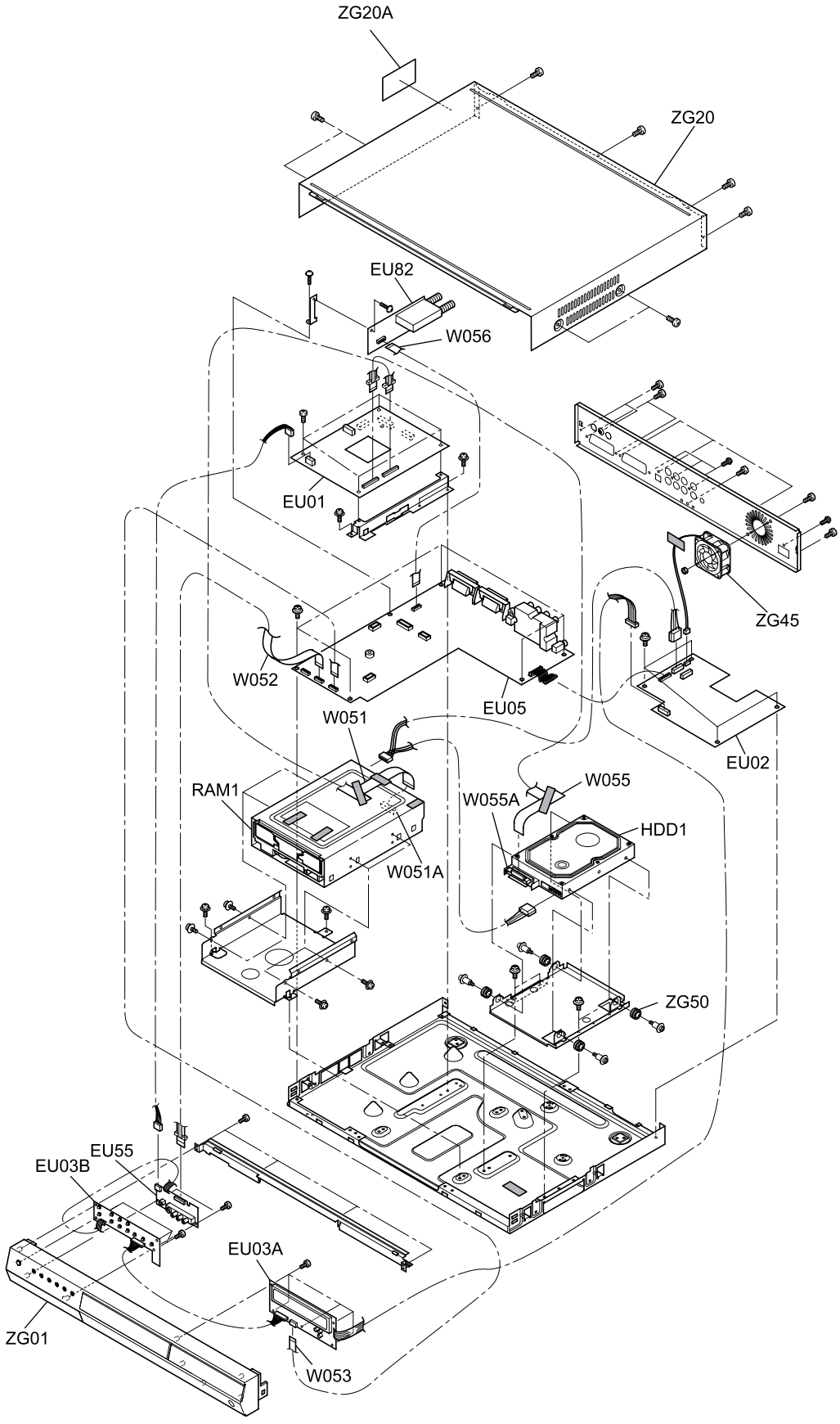

Fig. 4-4-2

2. PARTS LIST

*a: for RD-XS34SB, b: for RD-XS34SF, c: for RD-XS34SG

		Location No.	Part No.	Description	
				- MECHANICAL PARTS -	
		HDD1	P000428190	HDD,ST3160022ACECS 160GB	
	!	RAM1	P000432490	DVD-RAM	SW-9573-ETS
		W051	P000433820	Cable,Flexible	FFC,40P,L280
		W051A	P000391300	CONV Unit,ATAPI-FFC	
		W052	P000435000	Cable,Flexible	FFC,18P,L120
		W053	P000434990	Cable,Flexible	FFC,7P,L400
		W055	P000387340	Cable,Flexible	FFC,40P,L360
		W055A	P000391300	CONV Unit,ATAPI-FFC	
		W056	P000435030	Cable,Flexible	FFC,13P,L70
a		ZF01	P000405140	Remote Control Unit	SE-R0132,RD-XS34SB
b,c		ZF01	P000405350	Remote Control Unit	SE-R0133,RD-XS34SG/F
a	!	ZF10A	P000422540	Owners Manual,ST	English,RD-XS34SB
a	!	ZF10B	P000422550	Owners Manual,OP	English,RD-XS34SB
a	!	ZF10C	P000422560	Owners Manual,Quick,	English,RD-XS34SB
b	!	ZF10D	P000422860	Owners Manual,Quick,	English,RD-XS34SF
b	!	ZF10G	P000422570	Owners Manual,ST	English,RD-XS34SF
b	!	ZF10I	P000422580	Owners Manual,OP	English,RD-XS34SF
b	!	ZF10K	P000422590	Owners Manual,ST	French,RD-XS34SF
b	!	ZF11A	P000422600	Owners Manual,OP	French,RD-XS34SF
c	!	ZF10E	P000422870	Owners Manual,Quick,	English,RD-XS34SG
c	!	ZF11B	P000422610	Owners Manual,ST	English,RD-XS34SG
c	!	ZF11C	P000422620	Owners Manual,OP	English,RD-XS34SG
c	!	ZF11D	P000422630	Owners Manual,ST	German,RD-XS34SG
c	!	ZF11E	P000422640	Owners Manual,OP	German,RD-XS34SG
c	!	ZF11G	P000422650	Owners Manual,ST	Spanish,RD-XS34SG
c	!	ZF11I	P000422660	Owners Manual,OP	Spanish,RD-XS34SG
a	!	ZF23	79088034	Power Cord,UK	
b,c	!	ZF23	79088010	Power Cord,TE	
		ZF23A	P000440210	FILTER, ZCAT2132-1130	
		ZF35	P000401300	IR-Blaster	RWS1000-0052L
a		ZG01	P000435020	Panel Assy,Front	RD-XS34SB
b,c		ZG01	P000435090	Panel Assy,Front	RD-XS34SG/F
		ZG20	P000432500	Cover,Top	
a		ZG20A	P000438110	Rating Label	RD-XS34SB
b,c		ZG20A	P000438120	Rating Label	RD-XS34SG/F
		ZG45	P000401260	Fan,DC	5025LL12SND2
		ZG50	P000438100	Damper	

Note:

- There is a rating label (ZG20A) applied on the top cover (ZG20).
  When the top cover is replaced with a new one, put a new rating label on the new top cover.
  Transcribe the following items (Model No., serial No., power supply/power requirement etc.) described on the old rating label to the new rating label by using a permanent marker.

- A clamp filter (ZF23A) is attached to a power cord (ZF23). When replacing the power cord, install the clamp filter.

*a: for RD-XS34SB, b: for RD-XS34SF, c: for RD-XS34SG

	Location No.	Part No.	Description	
			- ELECTRICAL PARTS -	
a	EU01	P000435040	PC Board Assy	Digital,RD-XS34SB
b	EU01	P000435100	PC Board Assy	Digital,RD-XS34SF
c	EU01	P000435120	PC Board Assy	Digital,RD-XS34SG
			- INTEGRATED CIRCUITS -	
	IC302	P000377900	IC	MM1563DFBE
	IC303	79040399	IC	MM1561JFBE
	IC500	P000391280	IC	PQ070XZ01ZPH
	IC502	P000405070	IC	UPD72893
	IC503	79040163	IC	MT48LC1M16A1TG
	IC504	P000391230	IC	UPD72852AGB-8EU
	IC510	P000378050	IC	SN74AHC1G04HDCKR
	IC513	P000391280	IC	PQ070XZ01ZPH
	IC515	P000391210	IC	K4H560838D-TCB000
	IC516	P000391210	IC	K4H560838D-TCB000
	IC517	P000378040	IC	SN74AHC1G08HDCKR
	IC519	79040306	IC	PST594JMT
	IC520	P000391210	IC	K4H560838D-TCB000
	IC521	P000391210	IC	K4H560838D-TCB000
	IC523	P000377920	IC	SN74LV244APWR
	IC527	P000391290	IC	PQ1X331M2ZPH
	IC528	P000391240	IC	NJM2125F
	IC529	P000378050	IC	SN74AHC1G04HDCKR
	IC531	P000377900	IC	MM1563DFBE
	IC539	P000401220	IC	BU3081FV-E2
			- TRANSISTORS -	
	Q301	79050016	Transistor,Chip	2SC2712-Y
	Q302	79050016	Transistor,Chip	2SC2712-Y
	Q303	79050016	Transistor,Chip	2SC2712-Y
	Q304	79050016	Transistor,Chip	2SC2712-Y
	Q305	79050018	Transistor,Chip	2SA1162-Y
	Q306	79050018	Transistor,Chip	2SA1162-Y
	Q307	79050018	Transistor,Chip	2SA1162-Y
	Q308	79050018	Transistor,Chip	2SA1162-Y
	Q309	79050018	Transistor,Chip	2SA1162-Y
	Q310	79050018	Transistor,Chip	2SA1162-Y
			- DIODES -	
	D301	79060019	Diode,Chip	1SS355
	D302	79060019	Diode,Chip	1SS355
			- MISCELLANEOUS -	
	X301	79089168	Oscillator,Crystal	
	X500	79089168	Oscillator,Crystal	
	X501	P000377990	Crystal	27.0M
!	EU02	P000435010	PC Board Assy	Power
	EU03A	P000435050	PC Board Assy	Front(R)
			- INTEGRATED CIRCUITS -	
	IC101	P000377960	IC	BU2879AK
	IC102	P000434980	Module,IR	GP1UM271RK0F
			- DIODES -	
	D106	79060022	Diode,Chip	1SS368
	D117	79060022	Diode,Chip	1SS368
			- MISCELLANEOUS -	
	A100	P000416630	Display,FL	HNV-10SM38T
	EU03B	P00043506	0 PC Board Assy	Front(L)
			- TRANSISTORS -	
	Q102	79050089	Transistor	RN2401
	Q103	79050089	Transistor	RN2401

*a: for RD-XS34SB, b: for RD-XS34SF, c: for RD-XS34SG

	Location No.	Part No.		Description
	Q104	79050089	Transistor	RN2401
	Q108	79050089	Transistor	RN2401
	Q109	79050089	Transistor	RN2401
			- DIODES -	
	D103	79060077	Diode,LED	SLA-360MT
	D104	P000416670	Diode,LED	EL-3105-1VRT
			- MISCELLANEOUS -	
	S100	P000391050	Switch,Tact	
	S107	P000391050	Switch,Tact	
	S109	P000391050	Switch,Tact	
	S112	P000391050	Switch,Tact	
	S113	P000391050	Switch,Tact	
	S114	P000391050	Switch,Tact	
	S115	P000391050	Switch,Tact	
a	EU05	P000435070	PC Board Assy	Mother,RD-XS34SB
b	EU05	P000435110	PC Board Assy	Mother,RD-XS34SF
c	EU05	P000435130	PC Board Assy	Mother,RD-XS34SG
			- INTEGRATED CIRCUITS -	
	IC701	P000391180	IC	PST3222NR
	IC702	P000391150	IC	DC74HCT125M
	IC703	P000395140	IC	LC74793
	IC704	P000405040	IC	BU4S11G2-TR
	IC705	P000405030	IC	BU4S81G2-TR
	IC706	P000405050	IC	BU4S69G2-TR
	IC707	P000405050	IC	BU4S69G2-TR
	IC901	P000416760	IC	PCM1851PJT
	IC903	79040044	IC	NJM4580E
	IC904	79040397	IC	MM1575ANRE
	IC906	P000416650	IC,Terminal,OPT	LAF1001-0301F
	ICB10	P000395150	IC	MM1565AFBE
	ICM01	P000378240	IC	MSP3417G
	ICM02	P000395160	IC	PQ05DZ1UJ00H
	ICW01	P000378260	IC	MM1506XNRE
	ICW02	P000378260	IC	MM1506XNRE
	ICW03	P000378260	IC	MM1506XNRE
	ICW04	P000378270	IC	MM1508XNRE
	ICW05	P000405020	IC	TC7W53FU
	ICW06	P000405020	IC	TC7W53FU
	ICX01	79040382	IC	MM1140XFFE
	ICX02	P000391260	IC	MM1568DJBEG
	ICX03	P000405080	IC	XC6209
	ICX04	P000395150	IC	MM1565AFBE
	ICX05	P000391260	IC	MM1568DJBEG
	ICX06	79040369	IC	MM1113XFBE
b,c	ICZ01	79040381	IC	MM1503
b,c	ICZ02	P000378270	IC	MM1508XNRE
			- TRANSISTORS -	
	Q700	79050016	Transistor,Chip	2SC2712-Y
	Q703	79050018	Transistor,Chip	2SA1162-Y
	Q901	79050014	Transistor,Chip	HN1C03F
	Q902	79050014	Transistor,Chip	HN1C03F
	Q903	79050014	Transistor,Chip	HN1C03F
	Q904	79050001	Transistor,Chip	RN2402
	Q905	79050001	Transistor,Chip	RN2402
	Q906	79050043	Transistor,Chip	RN1402
	Q907	79050043	Transistor,Chip	RN1402
b,c	Q908	79050043	Transistor,Chip	RN1402
	Q909	79050043	Transistor,Chip	RN1402
b,c	Q910	79050043	Transistor,Chip	RN1402
	Q911	79050016	Transistor,Chip	2SC2712-Y
	Q912	79050018	Transistor,Chip	2SA1162-Y
	QB02	79050018	Transistor,Chip	2SA1162-Y
	QB04	79050018	Transistor,Chip	2SA1162-Y

*a: for RD-XS34SB, b: for RD-XS34SF, c: for RD-XS34SG

	Location No.	Part No.		Description
	QB21	P000395120	Transistor,Chip	2SC2714-Y
	QW01	79050016	Transistor,Chip	2SC2712-Y
	QW02	79050043	Transistor,Chip	RN1402
	QW03	79050016	Transistor,Chip	2SC2712-Y
	QW04	79050016	Transistor,Chip	2SC2712-Y
	QW05	79050016	Transistor,Chip	2SC2712-Y
	QW06	79050001	Transistor,Chip	RN2402
	QW08	79050016	Transistor,Chip	2SC2712-Y
	QW10	79050016	Transistor,Chip	2SC2712-Y
	QW11	79050043	Transistor,Chip	RN1402
	QX01	79050016	Transistor,Chip	2SC2712-Y
	QX02	79050018	Transistor,Chip	2SA1162-Y
	QX03	79050018	Transistor,Chip	2SA1162-Y
	QX04	79050043	Transistor,Chip	RN1402
	QX05	79050018	Transistor,Chip	2SA1162-Y
	QX06	79050018	Transistor,Chip	2SA1162-Y
	QX07	79050043	Transistor,Chip	RN1402
	QX08	79050043	Transistor,Chip	RN1402
b,c	QZ01	79050018	Transistor,Chip	2SA1162-Y
			- DIODES -	
	D701	79060019	Diode,Chip	1SS355
	D702	79060028	Diode,Chip	1SS226
	D704	79060019	Diode,Chip	1SS355
	D901	79060019	Diode,Chip	1SS355
	D902	79060019	Diode,Chip	1SS355
	D904	79060019	Diode,Chip	1SS355
	DB01	79060096	Diode,Zener	MTZJT-7733D
	DM01	79060019	Diode,Chip	1SS355
	DW01	79060028	Diode,Chip	1SS226
	DW03	79060028	Diode,Chip	1SS226
	DW04	79060019	Diode,Chip	1SS355
	DW05	79060028	Diode,Chip	1SS226
	DW06	79060028	Diode,Chip	1SS226
	DW07	79060028	Diode,Chip	1SS226
	DW08	79060019	Diode,Chip	1SS355
	DW09	79060028	Diode,Chip	1SS226
	DW10	79060028	Diode,Chip	1SS226
	DW11	79060028	Diode,Chip	1SS226
	DW12	79060028	Diode,Chip	1SS226
	DW13	79060028	Diode,Chip	1SS226
	DW14	79060028	Diode,Chip	1SS226
	DW15	79060019	Diode,Chip	1SS355
	DW16	79060028	Diode,Chip	1SS226
	DW17	79060019	Diode,Chip	1SS355
	DW19	79060019	Diode,Chip	1SS355
	DW20	79060028	Diode,Chip	1SS226
	DW21	79060028	Diode,Chip	1SS226
	DW22	79060019	Diode,Chip	1SS355
	DX01	79060028	Diode,Chip	1SS226
	DX02	79060028	Diode,Chip	1SS226
	DX03	79060028	Diode,Chip	1SS226
	DX04	79060028	Diode,Chip	1SS226
	DX05	79060028	Diode,Chip	1SS226
	DX06	79060028	Diode,Chip	1SS226
	DX07	79060028	Diode,Chip	1SS226
	DX08	79060028	Diode,Chip	1SS226
	DX09	79060028	Diode,Chip	1SS226
			- MISCELLANEOUS -	
	B701	P000377950	Buzzer	PS1240P02AT
	J701	P000416610	Jack,3.5	LGY2502-0200F
	JX01	P000435170	Jack	LAP5100-1001F
	JX02	P000434970	Connector,RGB	MRC-021V-29PC

*a: for RD-XS34SB, b: for RD-XS34SF, c: for RD-XS34SG

	Location No.	Part No.	Description	
	JX03	P000434970	Connector,RGB	MRC-021V-29PC
	K901	P000405010	Relay	ATX209
b,c	K902	P000405010	Relay	ATX209
b,c	K903	P000405010	Relay	ATX209
	X700	P000391040	Crystal	
	X701	P000363400	Oscillator,Crystal	
	X702	P000395090	Resonator,Ceramic	FCR4.43MC5AT
	X703	P000405000	Resonator,Ceramic	CSBLA500KEC8-BO
	XM01	P000395100	Resonator,Ceramic	AT-41-18.432M
	EU55	P000435080	PC Board Assy	Front Jack
			- MISCELLANEOUS -	
	J170	P000387300	Jack,DV	
	J171	P000402780	Jack,3P+1Y/C	
	EU82	P000437420	PC Board Assy	Tuner
!	MB01	P0000405090	Tuner	TCPM0601PD15A

Specification

RD-XS34SB 1/2

■ Power requirement during operation
39W

■ Power requirement at standby
4.3W (Eco mode: off)
1.9W (Eco mode: on)

■ Power supply
230 - 240V AC, 50/60 Hz

■ Mass
5.2kg

■ External dimension
Width 430 x Height 58 x Depth 336mm

■ Tuner
System: Frequency synthesizer
Channel coverage: PAL I VHF: A-J, 11, 13, E2-E12
UHF: E21-E69
CATV: X, Y, Z, S1-S41, 1-53
(48MHz to 464MHz, 8MHz steps)
Stereo: NICAM-I

■ Antenna input/output terminal
VHF/UHF: 75Ω, IEC Connector

■ Signal system
Standard PAL Colour TV system

■ Laser
Semiconductor laser, Wavelength: 650nm/780nm

■ Format
DVD-VR format
DVD-Video format

■ Image recording system
MPEG2

■ Sound recording system
Dolby Digital M1, M2, Linear PCM

■ VIDEO input
1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 in front
SCART socket x 2 at rear

■ VIDEO output
1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 at rear
SCART socket x 2 at rear

■ S-VIDEO input
(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 in front
Mini DIN4 Pin x 1 system
SCART socket x 1 at rear

■ S-VIDEO output
(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 at rear
Mini DIN4 Pin x 1 system
SCART socket x 1 at rear

■ COMPONENT output (Y, P_B, P_R)
Y output (green), 1.0Vp-p (75Ω),
Sync signal negative, Pin jack x 1 system
P_B, P_R output (blue, red), 0.7Vp-p (75Ω),
Pin jack x 1 system each

■ RGB input
(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
SCART socket x 1 at rear (AV2 only)

■ RGB output
(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
SCART socket x 1 at rear (AV1 only)

■ AUDIO input
2.0V (rms), 50kΩ or below, pin jack
(L, R) x 1 system
1 in front
SCART socket x 2 at rear

■ AUDIO output
2.0V (rms), 200Ω or above, pin jack
(L, R) x 1 system
1 at rear
SCART socket x 2 at rear

RD-XS34SB 2/2

■ DIGITAL AUDIO OUTPUT BITSTREAM/PCM (OPTICAL terminal)

Optical connector x 1 system

■ DIGITAL AUDIO OUTPUT BITSTREAM/PCM (COAXIAL terminal)

0.5Vp-p (75Ω), pin jack x 1 system

■ CHANNEL CHANGE IR jack

This is for connection of the supplied IR control cable only.

■ DV input

4-pin x 1 in front

■ Remote control

Wireless remote control (SE-R0132)

■ Operating conditions

Temperature: 5°C ~ 35°C,
Position: Horizontal

■ Clock display

24 hour digital display

■ Clock accuracy

Quartz (monthly deviation: approximately ±30 seconds)

■ Supplied Accessories

- Remote control 1
- Batteries (R03) 2
- Power cord 1
- Coaxial cable 1
- Video/Audio cable 1
- IR control cable 1
- OWNER'S MANUAL (INSTALLATION GUIDE) 1
- OWNER'S MANUAL (OPERATIONS) 1
- Quick Reference 1

- The design and specifications may change without prior notice.
- The Illustrations and screens described in this manual may be exaggerated or simplified for easy recognition and may be slightly different from the actual unit.

Specification

RD-XS34SF 1/2

■ Power requirement during operation
39W

■ Power requirement at standby
4.3W (Eco mode: off)
1.9W (Eco mode: on)

■ Power supply
230 - 240V AC, 50/60 Hz

■ Mass
5.2kg

■ External dimension
Width 430 x Height 58 x Depth 336mm

■ Tuner
System: Frequency synthesizer
Channel coverage:

SECAM L	VHF:	FB, FC1, FC, F1-F6
	UHF:	E21-E69
	CATV:	B-Q, H1-H21, 1-18, 70-99
PAL B/G	VHF:	A-H, E2-E12, M4-M10,
SECAM B/G		R1-R12, U1-U15
	UHF:	E21-E69
	CATV:	S1-S41, X, Y, Z, Z+1, Z+2
PAL D/K	VHF:	A-H, E2-E12, M4-M10,
SECAM D/K		R1-R12, U1-U15
	UHF:	E21-E69
	CATV:	S1-S41, X, Y, Z, Z+1, Z+2

■ Aerial input/output terminal
VHF/UHF: 75Ω, IEC Connector

■ Signal system
Standard PAL/SECAM Colour TV system

■ Laser
Semiconductor laser, Wavelength: 650nm/780nm

■ Format
DVD-VR format
DVD-Video format

■ Image recording system
MPEG2

■ Sound recording system
Dolby Digital M1, M2, Linear PCM

■ VIDEO input
1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 in front
PERITEL socket x 2 at rear

■ VIDEO output
1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 at rear
PERITEL socket x 2 at rear

■ S-VIDEO input
(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 in front
Mini DIN4 Pin x 1 system
PERITEL socket x 1 at rear

■ S-VIDEO output
(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 at rear
Mini DIN4 Pin x 1 system
PERITEL socket x 1 at rear

■ COMPONENT output (Y, P_B, P_R)
Y output (green), 1.0Vp-p (75Ω),
Sync signal negative, Pin jack x 1 system
P_B, P_R output (blue, red), 0.7Vp-p (75Ω),
Pin jack x 1 system each

■ RGB input
(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
PERITEL socket x 1 at rear (AV2 only)

■ RGB output
(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
PERITEL socket x 1 at rear (AV1 only)

■ AUDIO input
2.0V (rms), 50kΩ or below, pin jack
(L, R) x 1 system
1 in front
PERITEL socket x 2 at rear

■ AUDIO output
2.0V (rms), 200Ω or above, pin jack
(L, R) x 1 system
1 at rear
PERITEL socket x 2 at rear

RD-XS34SF 2/2

■ DIGITAL AUDIO OUTPUT BITSTREAM/PCM (OPTICAL terminal)

Optical connector x 1 system

■ DIGITAL AUDIO OUTPUT BITSTREAM/PCM (COAXIAL terminal)

0.5Vp-p (75Ω), pin jack x 1 system

■ CHANNEL CHANGE IR jack

This is for connection of the supplied IR control cable only.

■ DV input

4-pin x 1 in front

■ Remote control

Wireless remote control (SE-R0133)

■ Operating conditions

Temperature: 5°C ~ 35°C,
Position: Horizontal

■ Clock display

24 hour digital display

■ Clock accuracy

Quartz (monthly deviation: approximately ±30 seconds)

■ Supplied Accessories

- Remote control 1
- Batteries (R03) 2
- Power cord 1
- Coaxial cable 1
- Video/Audio cable 1
- IR control cable 1
- OWNER'S MANUAL (INSTALLATION GUIDE) 1
- OWNER'S MANUAL (OPERATIONS) 1
- Quick Reference 1

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Specification

RD-XS34SG 1/2

■ Power requirement during operation
39W

■ Power requirement at standby
4.3W (Eco mode: off)
1.9W (Eco mode: on)

■ Power supply
230 - 240V AC, 50/60 Hz

■ Mass
5.2kg

■ External dimension
Width 430 x Height 58 x Depth 336mm

■ Tuner
System: Frequency synthesizer
Channel coverage:

PAL B/G	VHF:	A-H, E2-E12, M4-M10,
SECAM B/G		R1-R12, U1-U5, 0-12, 5A, 9A
	UHF:	E21-E69, 28-69
	CATV:	S1-S41, X, Y, Z, Z+1, Z+2
PAL D/K	VHF:	A-H, E2-E12, M4-M10,
SECAM D/K		R1-R12, U1-U15
	UHF:	E21-E69
	CATV:	S1-S41, X, Y, Z, Z+1, Z+2
SECAM L	VHF:	FB, FC1, FC, F1-F6
	UHF:	E21-E69
	CATV:	B-Q, H1-H21, 1-18, 70-99

■ Aerial input/output terminal
VHF/UHF: 75Ω, IEC Connector

■ Signal system
Standard PAL/SECAM Colour TV system

■ Laser
Semiconductor laser, Wavelength: 650nm/780nm

■ Format
DVD-VR format
DVD-Video format

■ Image recording system
MPEG2

■ Sound recording system
Dolby Digital M1, M2, Linear PCM

■ VIDEO input
1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 in front
SCART socket x 2 at rear

■ VIDEO output
1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 at rear
SCART socket x 2 at rear

■ S-VIDEO input
(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 in front
Mini DIN4 Pin x 1 system
SCART socket x 1 at rear (AV2 only)

■ S-VIDEO output
(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 at rear
Mini DIN4 Pin x 1 system
SCART socket x 1 at rear (AV1 only)

■ COMPONENT output (Y, P_B, P_R)
Y output (green), 1.0Vp-p (75Ω),
Sync signal negative, Pin jack x 1 system
P_B, P_R output (blue, red), 0.7Vp-p (75Ω),
Pin jack x 1 system each

■ RGB input
(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
SCART socket x 1 at rear (AV2 only)

■ RGB output
(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
SCART socket x 1 at rear (AV1 only)

■ AUDIO input
2.0V (rms), 50kΩ or below, pin jack
(L, R) x 1 system
1 in front
SCART socket x 2 at rear

■ AUDIO output
2.0V (rms), 200Ω or above, pin jack
(L, R) x 1 system
1 at rear
SCART socket x 2 at rear

RD-XS34SG 2/2

■ DIGITAL AUDIO OUTPUT BITSTREAM/PCM (OPTICAL terminal)

Optical connector x 1 system

■ DIGITAL AUDIO OUTPUT BITSTREAM/PCM (COAXIAL terminal)

0.5Vp-p (75Ω), pin jack x 1 system

■ CHANNEL CHANGE IR jack

This is for connection of the supplied IR control cable only.

■ DV input

4-pin x 1 in front

■ Remote control

Wireless remote control (SE-R0133)

■ Operating conditions

Temperature: 5°C ~ 35°C,
Position: Horizontal

■ Clock display

24 hour digital display

■ Clock accuracy

Quartz (monthly deviation: approximately ±30 seconds)

■ Supplied Accessories

- Remote control 1
- Batteries (R03) 2
- Power cord 1
- Coaxial cable 1
- Video/Audio cable 1
- IR control cable 1
- OWNER'S MANUAL (INSTALLATION GUIDE) 1
- OWNER'S MANUAL (OPERATIONS) 1
- Quick Reference 1

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TOSHIBA CORPORATION
1 1, SHIBAURA 1 CHOME, MINATO KU, TOKYO 105 8001, JAPAN

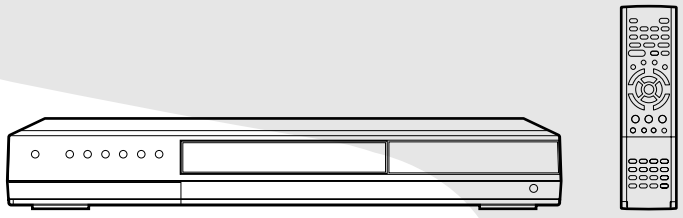
TOSHIBA

FILE NO. 810-200512

SERVICE MANUAL

HDD/DVD VIDEO RECORDER

RD-XS34SB
RD-XS34SF
RD-XS34SG



Feb., 2005 Ⓢ

LASER BEAM CAUTION LABEL

CLASS 1 LASER PRODUCT	APPAREIL A LASER DE CLASSE 1
CAUTION - Laser radiation when open. DO NOT STARE INTO BEAM. ATTENTION - RAYONNEMENT LASER EN CAS D'OUVERTURE. NE PAS REGARDER DANS LE FAISCEAU.	
DANGER - Invisible Laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM. ATTENTION - RAYONNEMENT LASER INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.	

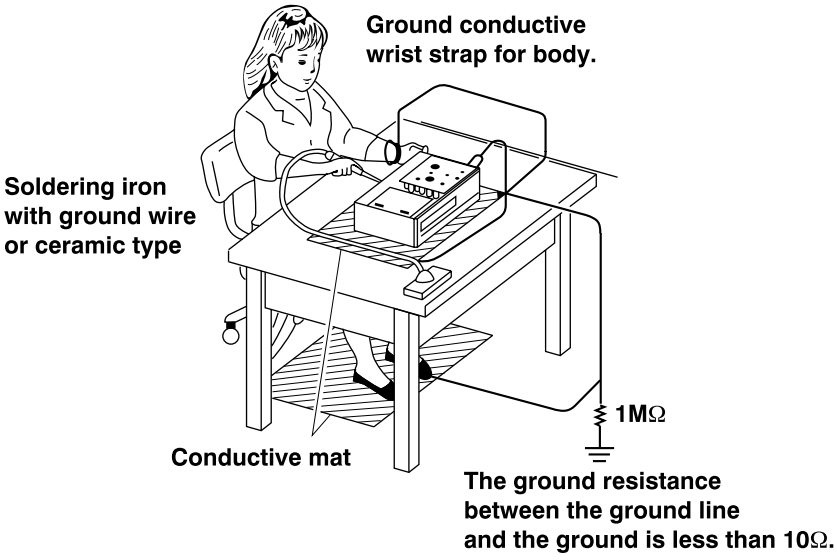
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of a laser may be received.

PREPARATION OF SERVICING

Pickup Head consists of a laser diode that is very susceptible to external static electricity.

Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened. When replacing, use a conductive mat, soldering iron with ground wire, etc. to protect the laser diode from damage by static electricity.

And also, the LSI and IC are same as above.



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   - 1-4. Inductor Indication
   - 1-5. Waveform and Voltage Measurement
   - 1-6. Others
2. PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM
3. BLOCK DIAGRAMS
   - 3-1. Overall Block Diagram
4. CIRCUIT DIAGRAMS
   - 4-1. Power Supply Circuit Diagram
   - 4-2. Front Circuit Diagram
   - 4-2-1. Front Jack Circuit Diagram
   - 4-2-2. Front Circuit Diagram (L/R)
   - 4-3. Digital Circuit Diagram
   - 4-3-1. Digital 1 Circuit Diagram
   - 4-3-2. Digital 2 Circuit Diagram
   - 4-4. Mother Circuit Diagram
   - 4-4-1. Tuner Interface Circuit Diagram
   - 4-4-2. Timer Circuit Diagram
   - 4-4-3. Audio Circuit Diagram
   - 4-4-4. Video Circuit Diagram
   - 4-4-5. MSP Circuit Diagram
   - 4-5. Tuner Unit Circuit Diagram
5. PC BOARDS
   - 5-1. Front Jack PC Board
   - 5-2. Front (L) PC Board
   - 5-3. Front (R) PC Board
   - 5-4. Tuner Unit PC Board
   - 5-5. Digital PC Board
   - 5-6. Mother PC Board

SECTION 4
PARTS LIST

SAFETY PRECAUTION
NOTICE
ABBREVIATIONS

1. EXPLODED VIEWS
   - 1-1. Packing Assembly
   - 1-2. Chassis Assembly
2. PARTS LIST

SECTION 1
GENERAL DESCRIPTIONS

1. OPERATING INSTRUCTIONS

Please refer to the owner's manual about the contents.

2. LOCATION OF MAIN PARTS

2-1. Location of Main Parts

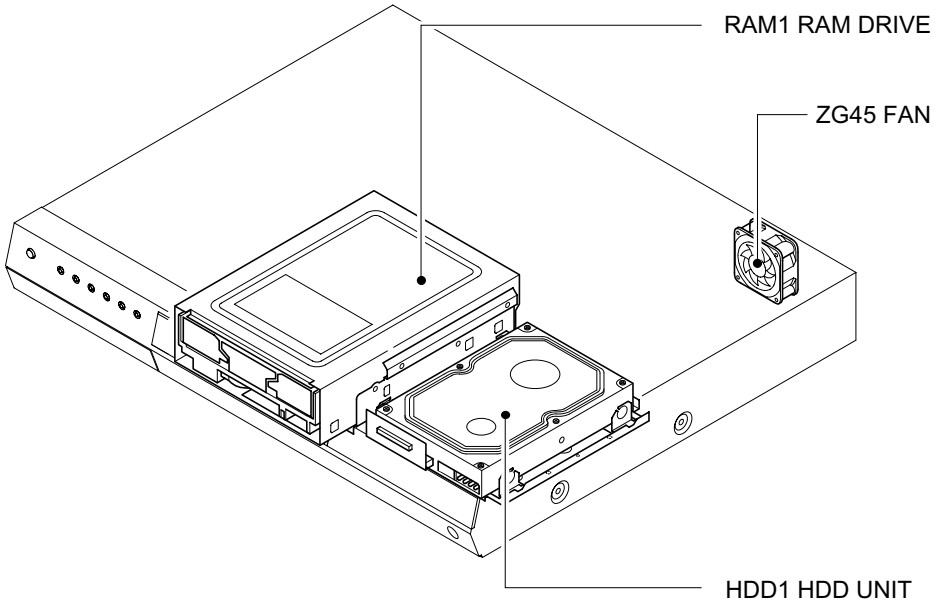

Fig. 1-2-1

2-2. Location of PC Boards

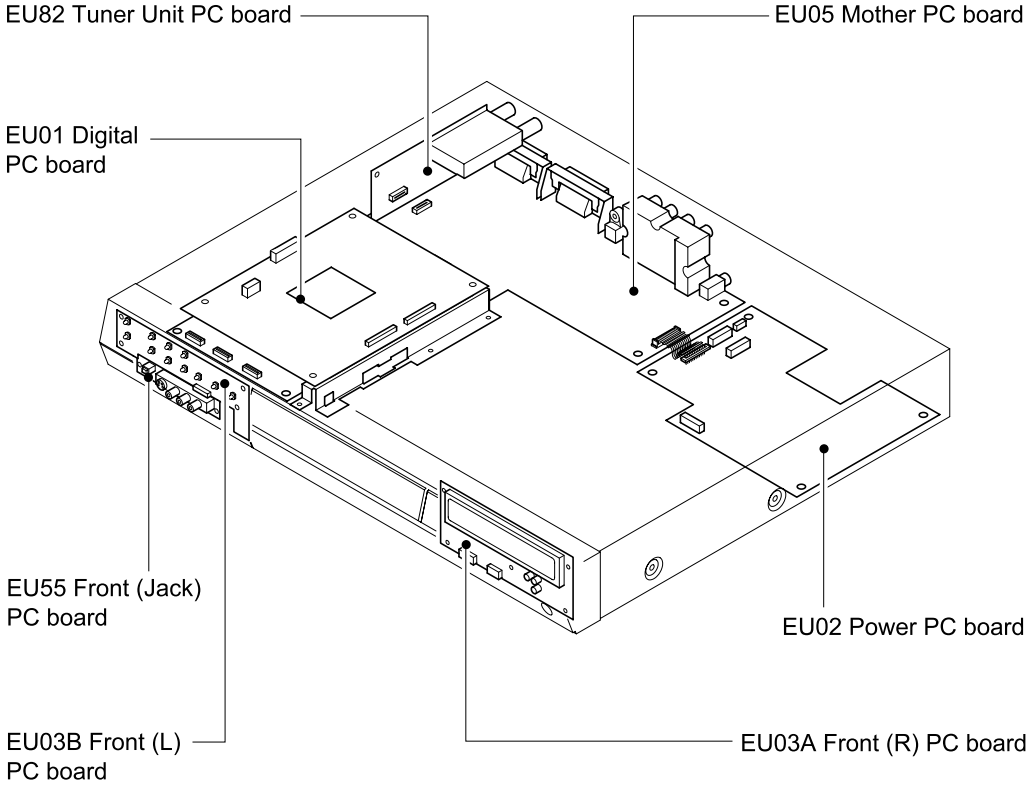

Fig. 1-2-2

SECTION 2
PART REPLACEMENT AND ADJUSTMENT PROCEDURES

CAUTIONS BEFORE STARTING PART REPLACEMENT

Electronic parts are susceptible to static electricity and may easily damaged, so do not forget to ground as required. Many screws are used inside the unit. To prevent the screws from missing or dropping, etc. always use a magnetized screwdriver in servicing. Several kinds of screws are used and some of them need special cautions. That is, take care of the tapping screws securing molded parts and fine pitch screws used to secure metal parts. If they are used improperly, the screw holes will be easily damaged and the parts can not be fixed.

1. REPLACEMENT OF MECHANICAL PARTS

1-1. Cabinet Replacement

1-1-1. Top Cover

1. Remove seven screws (1), then remove the top cover (2).

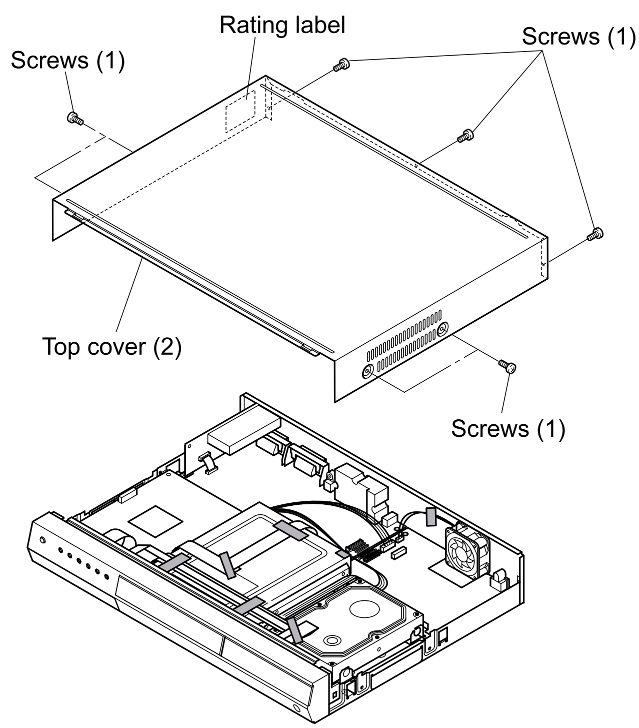

Fig. 2-1-1

Note:

There is a rating label applied on the top cover.

When the top cover is replaced with a new one, put a new rating label on the new top cover.

Transcribe the following items (Model No., serial No., power supply/power requirement etc.) described on the old rating label to the new rating label by using a permanent marker.

1-1-2. HDD

1. Remove the top cover. (Refer to item 1-1-1.)
2. Peel off the tape (1).
3. Remove four screws (2).
4. Disconnect the flexible cable (3) and the connector (4).
5. Remove four screws (5) and four dampers (7), then remove the HDD (8).

Note:

- After replacing, attach the tape (1) to its original position.

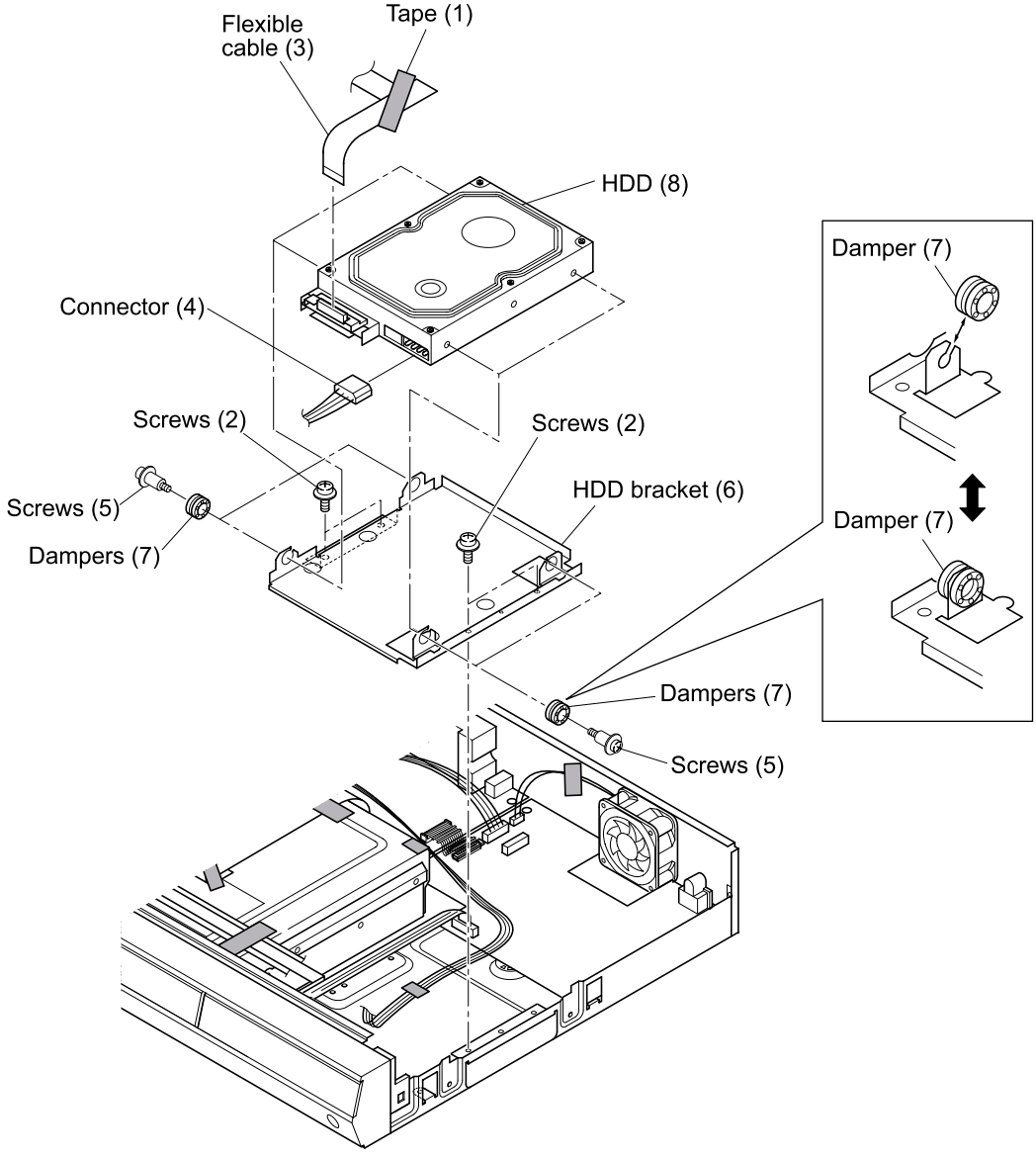

Fig. 2-1-2

1-1-3. Front Panel

1. Remove the top cover. (Refer to item 1-1-1.)
2. Peel off three tapes (1).
3. Disconnect two connectors (2) and two flexible cables (3).
4. Remove two screws (4) and four claws, then remove the front panel (5).

Note:

- After replacing, attach the tape (1) to its original position.

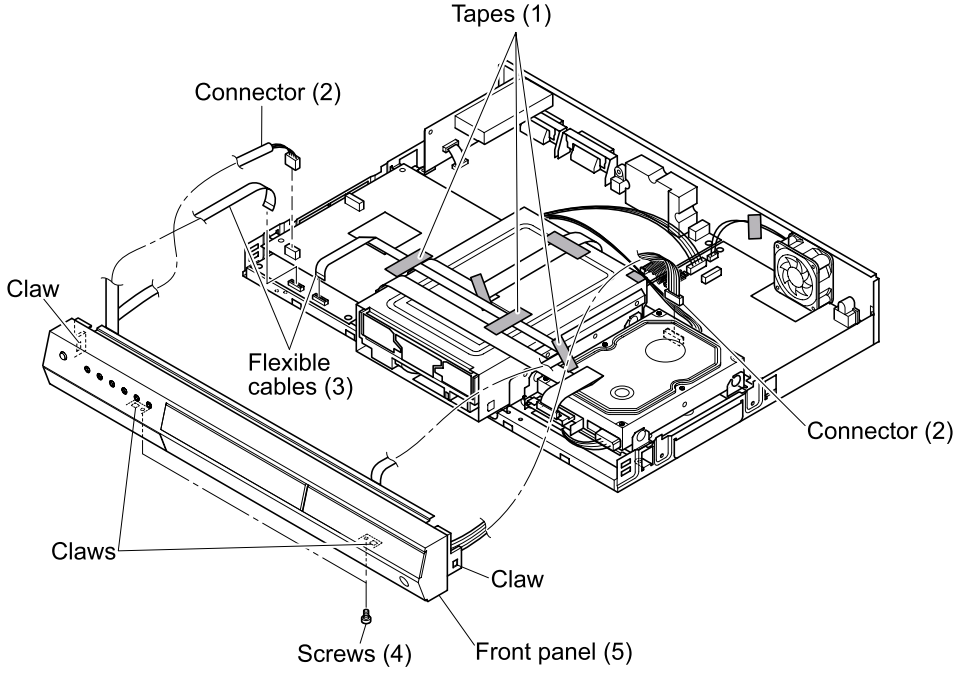

Fig. 2-1-3

1-1-4. RAM Drive

1. Remove the front panel. (Refer to item 1-1-3.)
2. Peel off three tapes (1).
3. Disconnect the flexible cable (2) and the connector (3).
4. Remove three screws (4), then remove the RAM drive (5).
5. Remove four screws (6), then remove the RAM drive bracket (7).

Note:

- After replacing, attach the tape (1) to its original position.

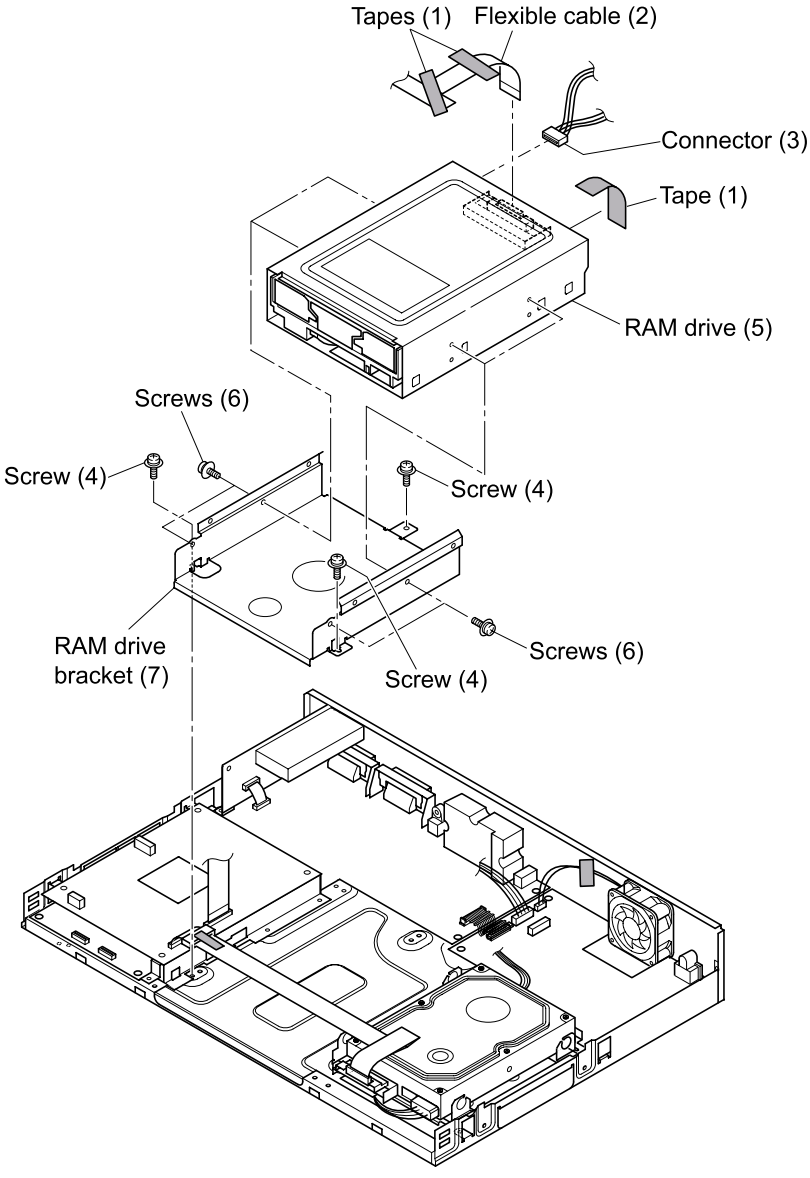

Fig. 2-1-4

1-1-5. Rear Panel

1. Remove the top cover. (Refer to item 1-1-1.)
2. Peel off the tape (1).
3. Remove the screw (2), four screws (3) and five screws (4).
4. Remove two claws, then remove the rear panel (5).
5. Remove two screws (6), them remove the fan (7).

Note:

- After replacing, attach the tape (1) to its original position.

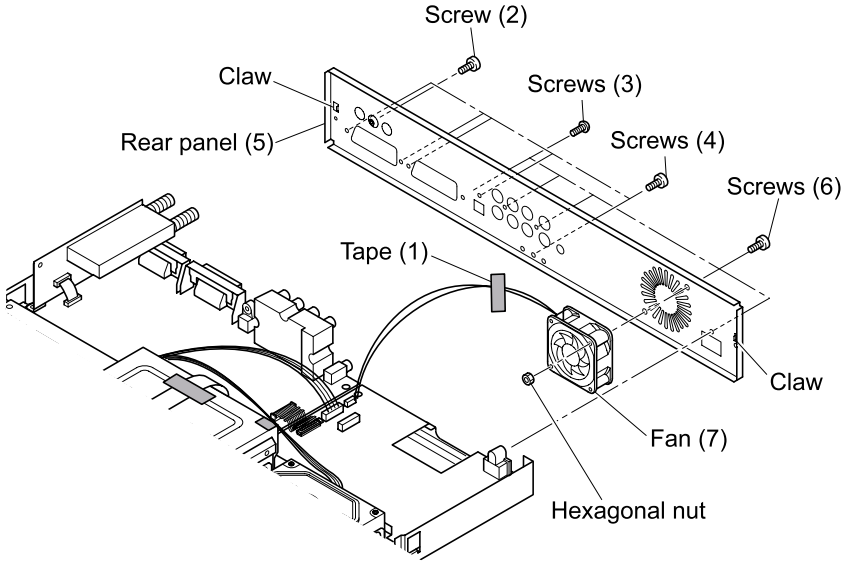

Fig. 2-1-5

1-1-6. Fan

1. Remove the top cover. (Refer to item 1-1-1.)
2. Peel off the tape (1).
3. Remove the connector (2).
4. Remove two screws (3), then remove the fan (4).

Note:

- After replacing, attach the tape (1) to its original position.

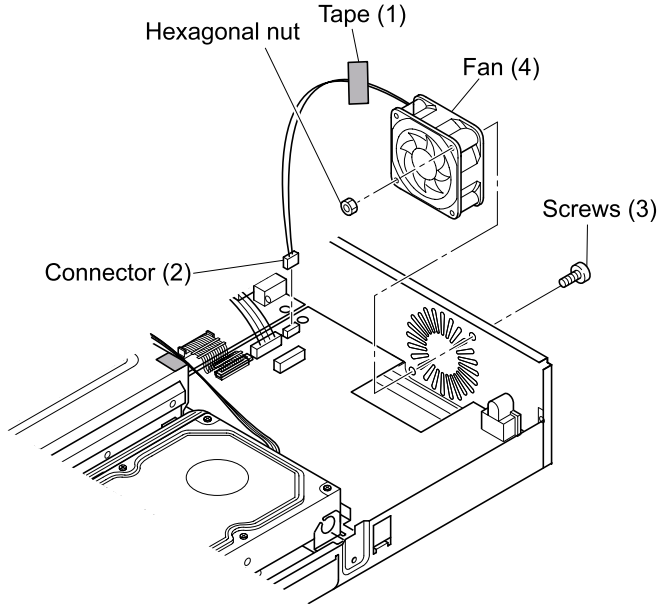

Fig. 2-1-6

1-2. PC Board Replacement

1-2-1. Tuner Unit PC Board

1. Remove the top cover. (Refer to item 1-1-1.)
2. Remove the screw (1) and the screw (2).
3. Remove the claw, then remove the Tuner Unit PC board (3).
4. Disconnect the flexible cable (4).

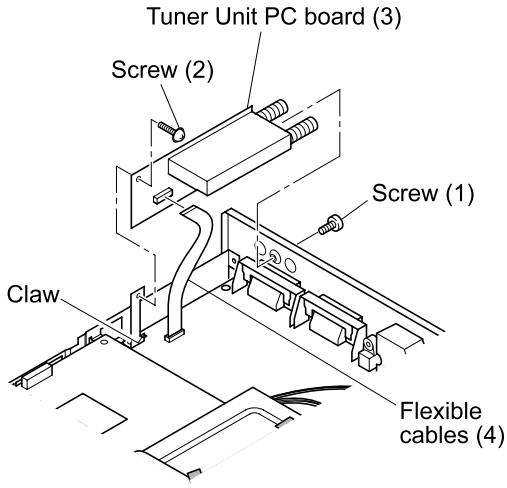

Fig. 2-1-7

1-2-2. Digital PC Board

1. Remove the top cover. (Refer to item 1-1-1.)
2. Disconnect two flexible cables (1) and the connector (2).
3. Remove four screws (3), then remove the Digital PC board (4).

Note:

- The Digital PC board (4) is connected to the Mother PC board (5) by three connectors (6). Take notice when removing.

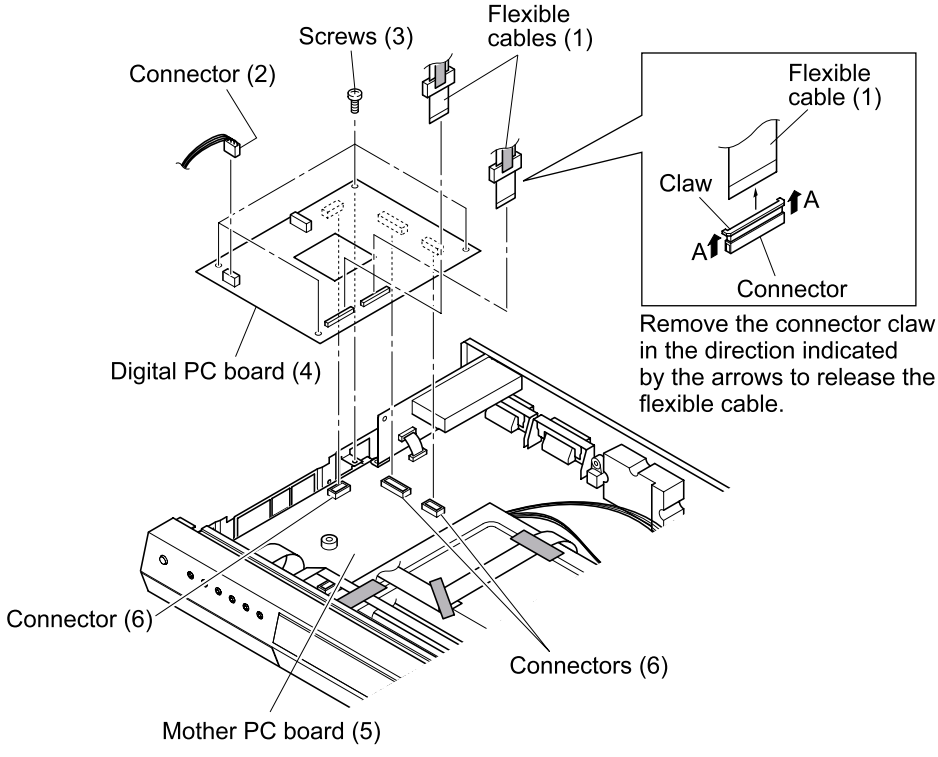

Fig. 2-1-8

1-2-3. Mother PC Board

1. Remove the Front panel. (Refer to item 1-1-3.)
2. Remove the Rear panel. (Refer to item 1-1-5.)
3. Remove the Tuner Unit PC board. (Refer to item 1-2-1.)
4. Remove the Digital PC board. (Refer to item 1-2-2.)
5. Disconnect the flexible cable (1) and the connector (2).
6. Remove six screws (3), then remove the Mother PC board (4).

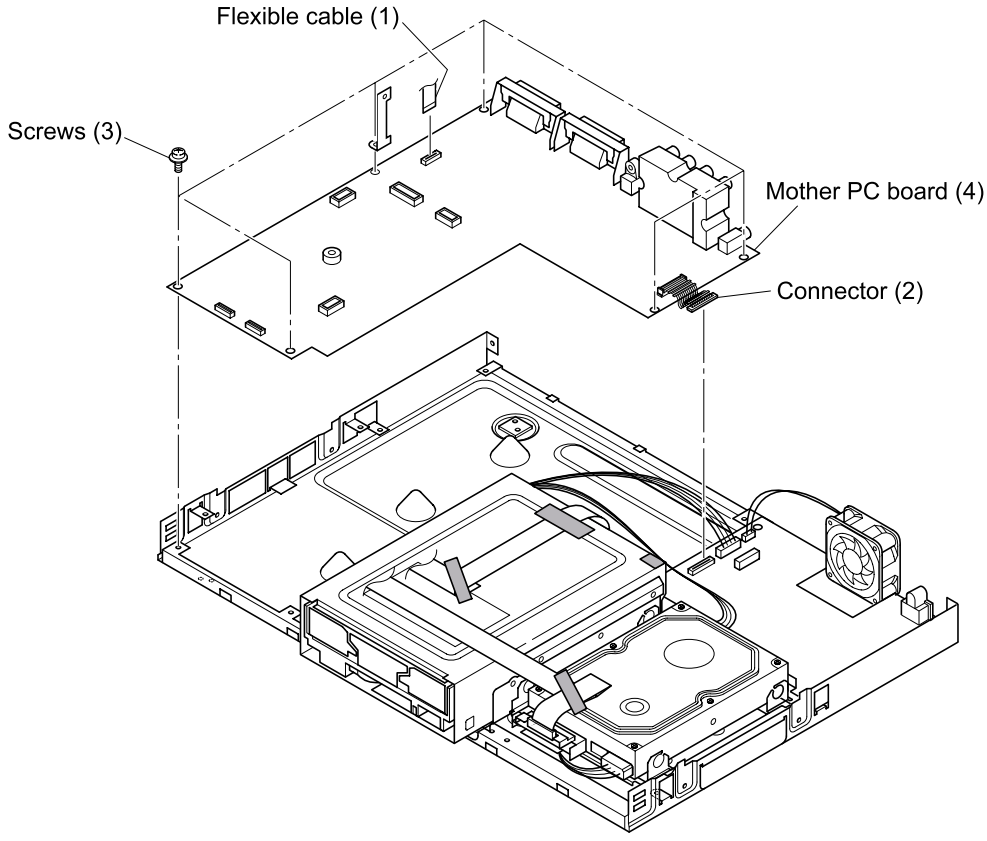

Fig. 2-1-9

1-2-4. Power PC Board

Cautions :

- **Danger of explosion if battery is incorrectly replaced.**
- **Replace only with the same or equivalent type.**

1. Remove the top cover. (Refer to item 1-1-1.)
2. Disconnect three connectors (1) and the connector (2).
3. Remove three screws (3) and the screw (4), then remove the Power PC board (5).

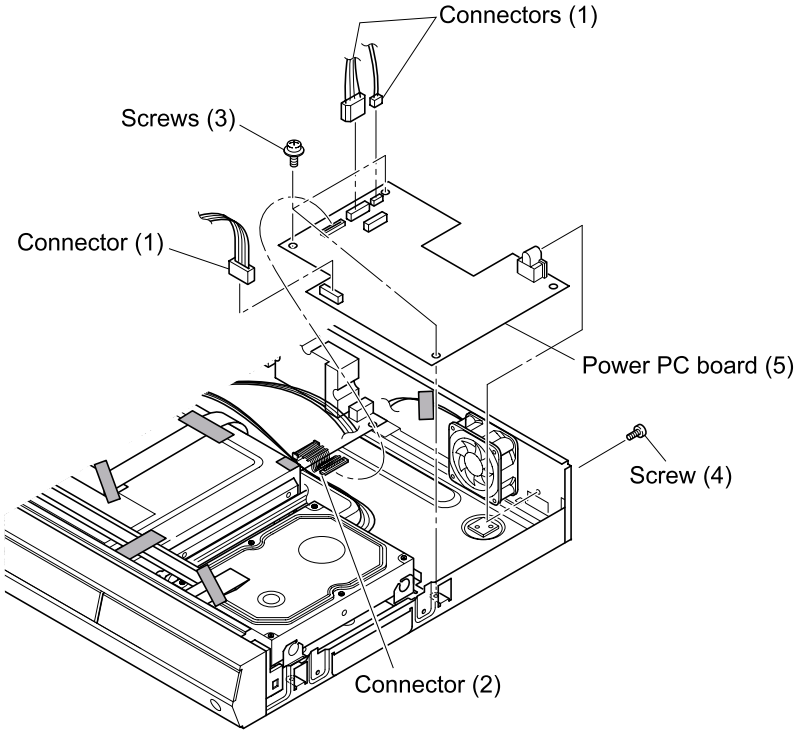

Fig. 2-1-10

1-2-5. Front (R), Front (L) and Front (Jack) PC Boards

1. Remove the front panel. (Refer to item 1-1-3.)
2. Peel off two tapes (1).
3. Remove four screws (2), then remove the stay (3).
4. Remove four screws (4), then remove the Front (R) PC board (5).
5. Remove two screws (6), then remove the Front (Jack) PC board (7).
6. Remove four screws (8), then remove the Front (L) PC board (9).

Note:

- After replacing, attach the tape (1) to its original position.

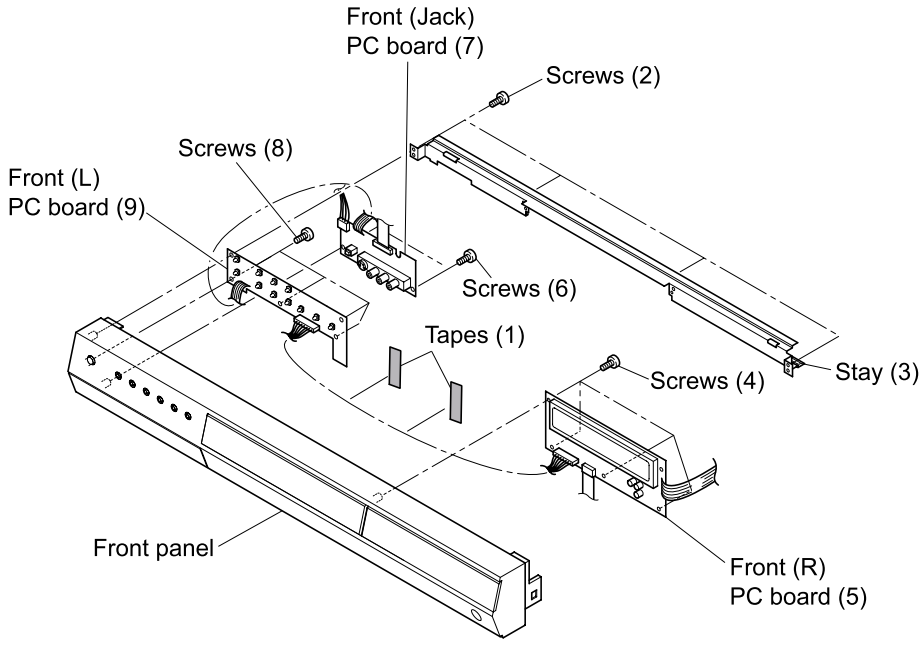

Fig. 2-1-11

Note:

- Fasten with the tape, taking care so that the wire does not hang over the tray door.

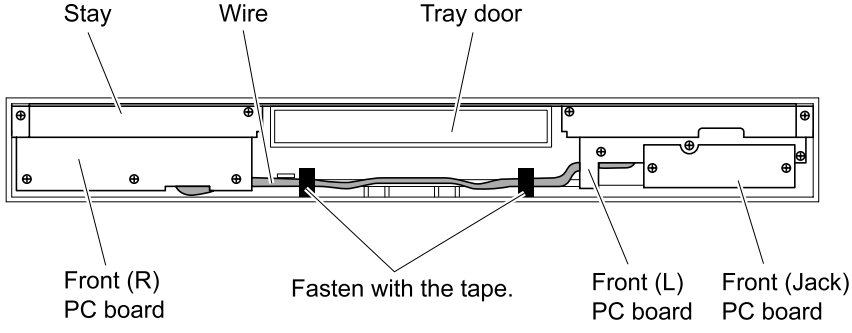

Fig. 2-1-12

2. WIRING CONNECTION DIAGRAM

After the servicing is complete, return the wiring to its original state by using the diagram below as a reference.

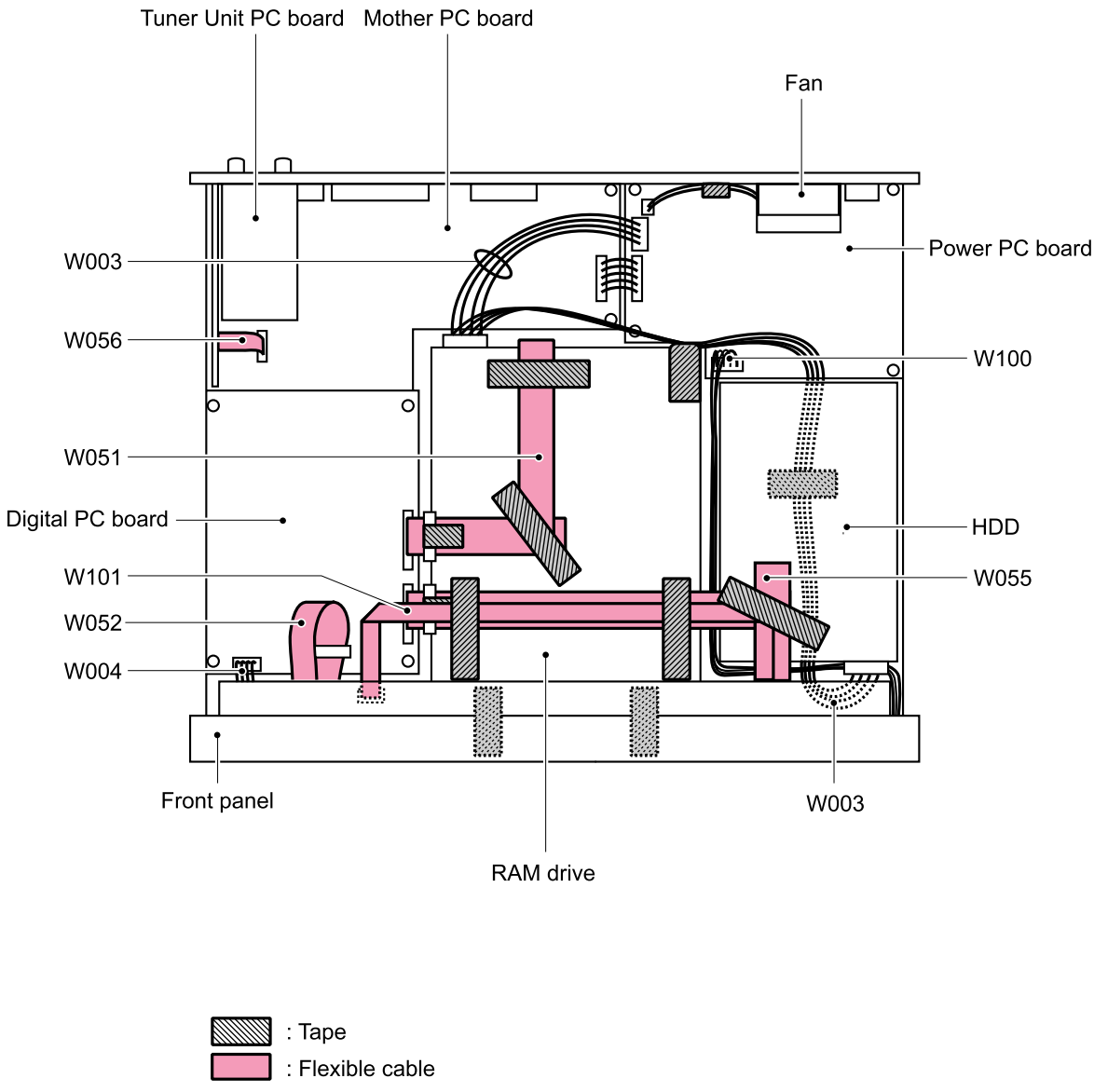

Fig. 2-2-1

SECTION 4
PARTS LIST

SAFETY PRECAUTION

The parts identified by ! (⚠) mark are critical for safety. Replace only with part number specified.

The mounting position of replacement is to be identical with originals.

The substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire or other hazards.

NOTICE

The part number must be used when ordering parts in order to assist in processing, be sure to include the model number and description.

ABBREVIATIONS

- **Integrated Circuit (IC)**
- **Capacitor (Cap)**
  - **Capacitance Tolerance (for Nominal Capacitance more than 10pF)**

Table 4-2-1

Symbol	B	C	D	F	G	J	K	M	N
Tolerance %	± 0.1	± 0.25	± 0.5	± 1	± 2	± 5	± 10	± 20	± 30

Symbol	P	Q	T	U	V	W	X	Y	Z
Tolerance %	+ 100 0	+ 30 – 10	+ 50 – 10	+ 75 – 10	+ 20 – 10	+ 100 – 10	+ 40 – 20	+ 150 – 10	+ 80 – 20

Ex. 10µF J = 10µF ± 5%

  - **Capacitance Tolerance (for Nominal Capacitance 10pF or less)**

Table 4-2-2

Symbol	B	C	D	F	G
Tolerance pF	± 0.1	± 0.25	± 0.5	± 1	± 2

Ex. 10pF G = 10pF ± 2pF

- **Resistor (Res)**
  - **Resistance tolerance**

Table 4-3-1

Symbol	B	C	D	F	G	J	K	M
Tolerance %	± 0.1	± 0.25	± 0.5	± 1	± 2	± 5	± 10	± 20

Ex. 470ΩJ = 470Ω± 5%

1. EXPLODED VIEWS

1-1. Packing Assembly

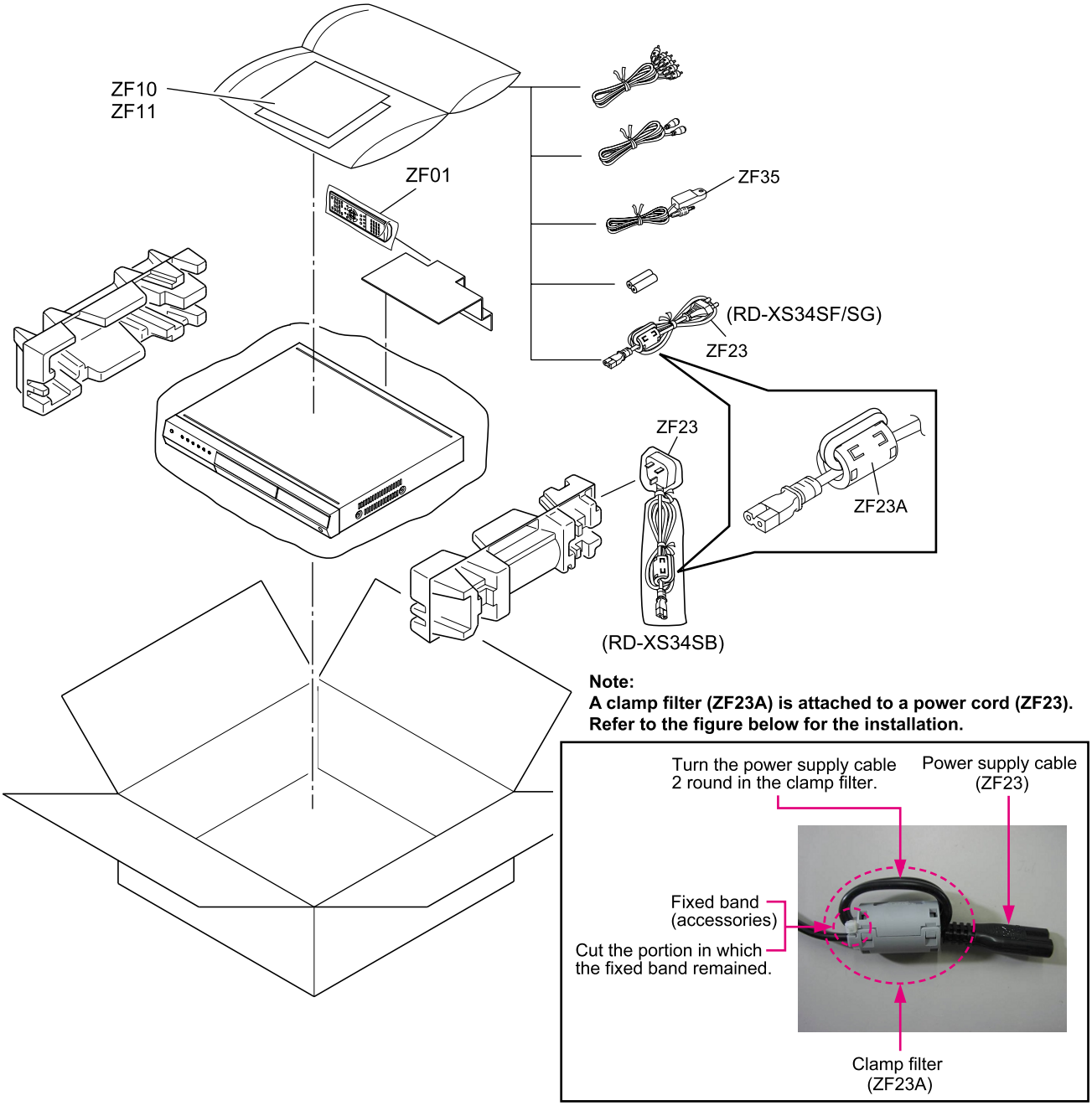

Fig. 4-4-1

1-2. Chassis Assembly

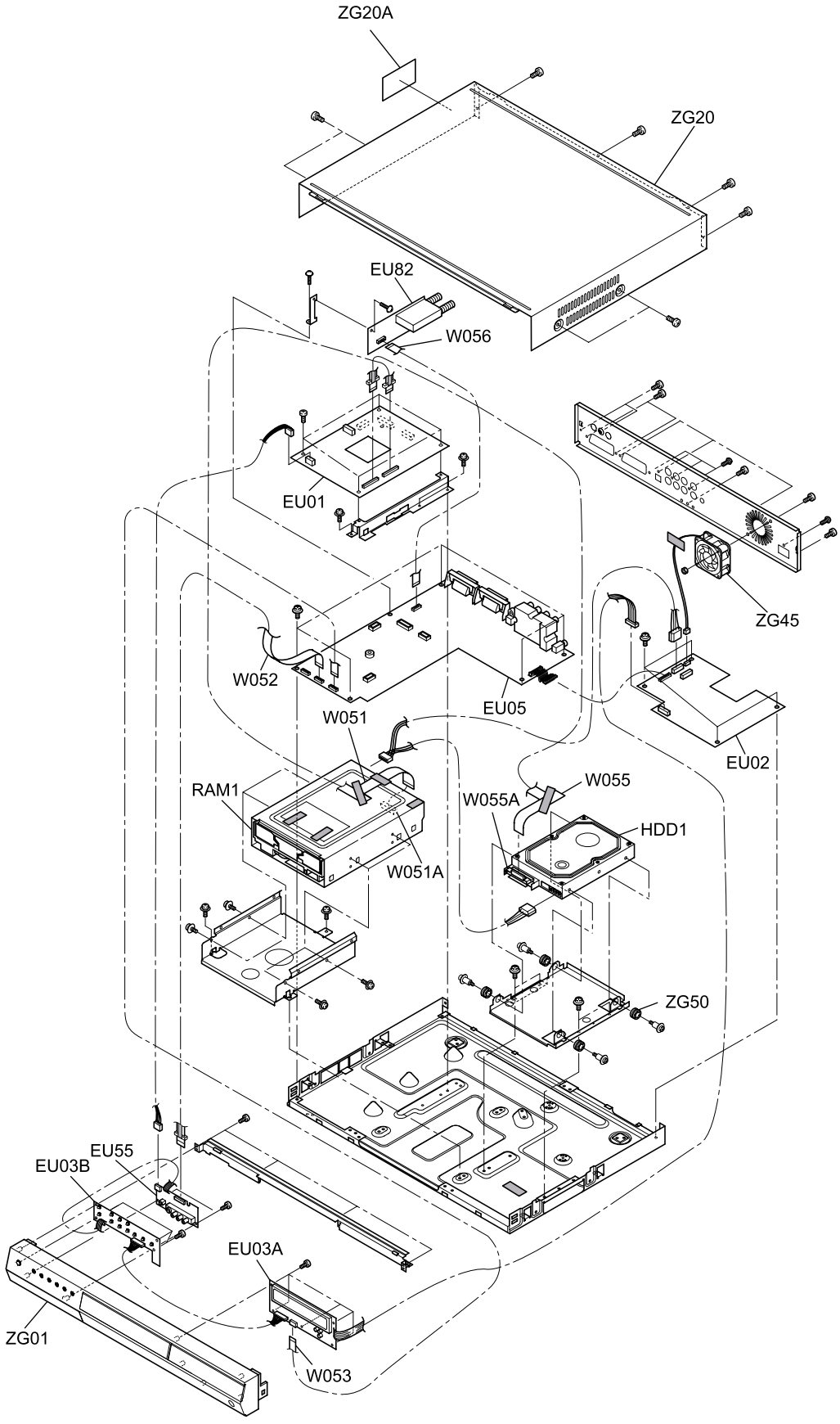

Fig. 4-4-2

2. PARTS LIST

*a: for RD-XS34SB, b: for RD-XS34SF, c: for RD-XS34SG

		Location No.	Part No.	Description	
				- MECHANICAL PARTS -	
		HDD1	P000428190	HDD,ST3160022ACECS	160GB
	!	RAM1	P000432490	DVD-RAM	SW-9573-ETS
		W051	P000433820	Cable,Flexible	FFC,40P,L280
		W051A	P000391300	CONV Unit,ATAPI-FFC	
		W052	P000435000	Cable,Flexible	FFC,18P,L120
		W053	P000434990	Cable,Flexible	FFC,7P,L400
		W055	P000387340	Cable,Flexible	FFC,40P,L360
		W055A	P000391300	CONV Unit,ATAPI-FFC	
		W056	P000435030	Cable,Flexible	FFC,13P,L70
a		ZF01	P000405140	Remote Control Unit	SE-R0132,RD-XS34SB
b,c		ZF01	P000405350	Remote Control Unit	SE-R0133,RD-XS34SG/F
a	!	ZF10A	P000422540	Owners Manual,ST	English,RD-XS34SB
a	!	ZF10B	P000422550	Owners Manual,OP	English,RD-XS34SB
a	!	ZF10C	P000422560	Owners Manual,Quick,	English,RD-XS34SB
b	!	ZF10D	P000422860	Owners Manual,Quick,	English,RD-XS34SF
b	!	ZF10G	P000422570	Owners Manual,ST	English,RD-XS34SF
b	!	ZF10I	P000422580	Owners Manual,OP	English,RD-XS34SF
b	!	ZF10K	P000422590	Owners Manual,ST	French,RD-XS34SF
b	!	ZF11A	P000422600	Owners Manual,OP	French,RD-XS34SF
c	!	ZF10E	P000422870	Owners Manual,Quick,	English,RD-XS34SG
c	!	ZF11B	P000422610	Owners Manual,ST	English,RD-XS34SG
c	!	ZF11C	P000422620	Owners Manual,OP	English,RD-XS34SG
c	!	ZF11D	P000422630	Owners Manual,ST	German,RD-XS34SG
c	!	ZF11E	P000422640	Owners Manual,OP	German,RD-XS34SG
c	!	ZF11G	P000422650	Owners Manual,ST	Spanish,RD-XS34SG
c	!	ZF11I	P000422660	Owners Manual,OP	Spanish,RD-XS34SG
a	!	ZF23	79088034	Power Cord,UK	
b,c	!	ZF23	79088010	Power Cord,TE	
		ZF23A	P000440210	FILTER, ZCAT2132-1130	
		ZF35	P000401300	IR-Blaster	RWS1000-0052L
a		ZG01	P000435020	Panel Assy,Front	RD-XS34SB
b,c		ZG01	P000435090	Panel Assy,Front	RD-XS34SG/F
		ZG20	P000432500	Cover,Top	
a		ZG20A	P000438110	Rating Label	RD-XS34SB
b,c		ZG20A	P000438120	Rating Label	RD-XS34SG/F
		ZG45	P000401260	Fan,DC	5025LL12SND2
		ZG50	P000438100	Damper	

Note:

- There is a rating label (ZG20A) applied on the top cover (ZG20).
  When the top cover is replaced with a new one, put a new rating label on the new top cover.
  Transcribe the following items (Model No., serial No., power supply/power requirement etc.) described on the old rating label to the new rating label by using a permanent marker.

- A clamp filter (ZF23A) is attached to a power cord (ZF23). When replacing the power cord, install the clamp filter.

*a: for RD-XS34SB, b: for RD-XS34SF, c: for RD-XS34SG

	Location No.	Part No.	Description	
			- ELECTRICAL PARTS -	
a	EU01	P000435040	PC Board Assy	Digital,RD-XS34SB
b	EU01	P000435100	PC Board Assy	Digital,RD-XS34SF
c	EU01	P000435120	PC Board Assy	Digital,RD-XS34SG
			- INTEGRATED CIRCUITS -	
	IC302	P000377900	IC	MM1563DFBE
	IC303	79040399	IC	MM1561JFBE
	IC500	P000391280	IC	PQ070XZ01ZPH
	IC502	P000405070	IC	UPD72893
	IC503	79040163	IC	MT48LC1M16A1TG
	IC504	P000391230	IC	UPD72852AGB-8EU
	IC510	P000378050	IC	SN74AHC1G04HDCKR
	IC513	P000391280	IC	PQ070XZ01ZPH
	IC515	P000391210	IC	K4H560838D-TCB000
	IC516	P000391210	IC	K4H560838D-TCB000
	IC517	P000378040	IC	SN74AHC1G08HDCKR
	IC519	79040306	IC	PST594JMT
	IC520	P000391210	IC	K4H560838D-TCB000
	IC521	P000391210	IC	K4H560838D-TCB000
	IC523	P000377920	IC	SN74LV244APWR
	IC527	P000391290	IC	PQ1X331M2ZPH
	IC528	P000391240	IC	NJM2125F
	IC529	P000378050	IC	SN74AHC1G04HDCKR
	IC531	P000377900	IC	MM1563DFBE
	IC539	P000401220	IC	BU3081FV-E2
			- TRANSISTORS -	
	Q301	79050016	Transistor,Chip	2SC2712-Y
	Q302	79050016	Transistor,Chip	2SC2712-Y
	Q303	79050016	Transistor,Chip	2SC2712-Y
	Q304	79050016	Transistor,Chip	2SC2712-Y
	Q305	79050018	Transistor,Chip	2SA1162-Y
	Q306	79050018	Transistor,Chip	2SA1162-Y
	Q307	79050018	Transistor,Chip	2SA1162-Y
	Q308	79050018	Transistor,Chip	2SA1162-Y
	Q309	79050018	Transistor,Chip	2SA1162-Y
	Q310	79050018	Transistor,Chip	2SA1162-Y
			- DIODES -	
	D301	79060019	Diode,Chip	1SS355
	D302	79060019	Diode,Chip	1SS355
			- MISCELLANEOUS -	
	X301	79089168	Oscillator,Crystal	
	X500	79089168	Oscillator,Crystal	
	X501	P000377990	Crystal	27.0M
!	EU02	P000435010	PC Board Assy	Power
	EU03A	P000435050	PC Board Assy	Front(R)
			- INTEGRATED CIRCUITS -	
	IC101	P000377960	IC	BU2879AK
	IC102	P000434980	Module,IR	GP1UM271RK0F
			- DIODES -	
	D106	79060022	Diode,Chip	1SS368
	D117	79060022	Diode,Chip	1SS368
			- MISCELLANEOUS -	
	A100	P000416630	Display,FL	HNV-10SM38T
	EU03B	P00043506	0 PC Board Assy	Front(L)
			- TRANSISTORS -	
	Q102	79050089	Transistor	RN2401
	Q103	79050089	Transistor	RN2401

*a: for RD-XS34SB, b: for RD-XS34SF, c: for RD-XS34SG

	Location No.	Part No.		Description
	Q104	79050089	Transistor	RN2401
	Q108	79050089	Transistor	RN2401
	Q109	79050089	Transistor	RN2401
			- DIODES -	
	D103	79060077	Diode,LED	SLA-360MT
	D104	P000416670	Diode,LED	EL-3105-1VRT
			- MISCELLANEOUS -	
	S100	P000391050	Switch,Tact	
	S107	P000391050	Switch,Tact	
	S109	P000391050	Switch,Tact	
	S112	P000391050	Switch,Tact	
	S113	P000391050	Switch,Tact	
	S114	P000391050	Switch,Tact	
	S115	P000391050	Switch,Tact	
a	EU05	P000435070	PC Board Assy	Mother,RD-XS34SB
b	EU05	P000435110	PC Board Assy	Mother,RD-XS34SF
c	EU05	P000435130	PC Board Assy	Mother,RD-XS34SG
			- INTEGRATED CIRCUITS -	
	IC701	P000391180	IC	PST3222NR
	IC702	P000391150	IC	DC74HCT125M
	IC703	P000395140	IC	LC74793
	IC704	P000405040	IC	BU4S11G2-TR
	IC705	P000405030	IC	BU4S81G2-TR
	IC706	P000405050	IC	BU4S69G2-TR
	IC707	P000405050	IC	BU4S69G2-TR
	IC901	P000416760	IC	PCM1851PJT
	IC903	79040044	IC	NJM4580E
	IC904	79040397	IC	MM1575ANRE
	IC906	P000416650	IC,Terminal,OPT	LAF1001-0301F
	ICB10	P000395150	IC	MM1565AFBE
	ICM01	P000378240	IC	MSP3417G
	ICM02	P000395160	IC	PQ05DZ1UJ00H
	ICW01	P000378260	IC	MM1506XNRE
	ICW02	P000378260	IC	MM1506XNRE
	ICW03	P000378260	IC	MM1506XNRE
	ICW04	P000378270	IC	MM1508XNRE
	ICW05	P000405020	IC	TC7W53FU
	ICW06	P000405020	IC	TC7W53FU
	ICX01	79040382	IC	MM1140XFFE
	ICX02	P000391260	IC	MM1568DJBEG
	ICX03	P000405080	IC	XC6209
	ICX04	P000395150	IC	MM1565AFBE
	ICX05	P000391260	IC	MM1568DJBEG
	ICX06	79040369	IC	MM1113XFBE
b,c	ICZ01	79040381	IC	MM1503
b,c	ICZ02	P000378270	IC	MM1508XNRE
			- TRANSISTORS -	
	Q700	79050016	Transistor,Chip	2SC2712-Y
	Q703	79050018	Transistor,Chip	2SA1162-Y
	Q901	79050014	Transistor,Chip	HN1C03F
	Q902	79050014	Transistor,Chip	HN1C03F
	Q903	79050014	Transistor,Chip	HN1C03F
	Q904	79050001	Transistor,Chip	RN2402
	Q905	79050001	Transistor,Chip	RN2402
	Q906	79050043	Transistor,Chip	RN1402
	Q907	79050043	Transistor,Chip	RN1402
b,c	Q908	79050043	Transistor,Chip	RN1402
	Q909	79050043	Transistor,Chip	RN1402
b,c	Q910	79050043	Transistor,Chip	RN1402
	Q911	79050016	Transistor,Chip	2SC2712-Y
	Q912	79050018	Transistor,Chip	2SA1162-Y
	QB02	79050018	Transistor,Chip	2SA1162-Y
	QB04	79050018	Transistor,Chip	2SA1162-Y

*a: for RD-XS34SB, b: for RD-XS34SF, c: for RD-XS34SG

	Location No.	Part No.		Description
	QB21	P000395120	Transistor,Chip	2SC2714-Y
	QW01	79050016	Transistor,Chip	2SC2712-Y
	QW02	79050043	Transistor,Chip	RN1402
	QW03	79050016	Transistor,Chip	2SC2712-Y
	QW04	79050016	Transistor,Chip	2SC2712-Y
	QW05	79050016	Transistor,Chip	2SC2712-Y
	QW06	79050001	Transistor,Chip	RN2402
	QW08	79050016	Transistor,Chip	2SC2712-Y
	QW10	79050016	Transistor,Chip	2SC2712-Y
	QW11	79050043	Transistor,Chip	RN1402
	QX01	79050016	Transistor,Chip	2SC2712-Y
	QX02	79050018	Transistor,Chip	2SA1162-Y
	QX03	79050018	Transistor,Chip	2SA1162-Y
	QX04	79050043	Transistor,Chip	RN1402
	QX05	79050018	Transistor,Chip	2SA1162-Y
	QX06	79050018	Transistor,Chip	2SA1162-Y
	QX07	79050043	Transistor,Chip	RN1402
	QX08	79050043	Transistor,Chip	RN1402
b,c	QZ01	79050018	Transistor,Chip	2SA1162-Y
			- DIODES -	
	D701	79060019	Diode,Chip	1SS355
	D702	79060028	Diode,Chip	1SS226
	D704	79060019	Diode,Chip	1SS355
	D901	79060019	Diode,Chip	1SS355
	D902	79060019	Diode,Chip	1SS355
	D904	79060019	Diode,Chip	1SS355
	DB01	79060096	Diode,Zener	MTZJT-7733D
	DM01	79060019	Diode,Chip	1SS355
	DW01	79060028	Diode,Chip	1SS226
	DW03	79060028	Diode,Chip	1SS226
	DW04	79060019	Diode,Chip	1SS355
	DW05	79060028	Diode,Chip	1SS226
	DW06	79060028	Diode,Chip	1SS226
	DW07	79060028	Diode,Chip	1SS226
	DW08	79060019	Diode,Chip	1SS355
	DW09	79060028	Diode,Chip	1SS226
	DW10	79060028	Diode,Chip	1SS226
	DW11	79060028	Diode,Chip	1SS226
	DW12	79060028	Diode,Chip	1SS226
	DW13	79060028	Diode,Chip	1SS226
	DW14	79060028	Diode,Chip	1SS226
	DW15	79060019	Diode,Chip	1SS355
	DW16	79060028	Diode,Chip	1SS226
	DW17	79060019	Diode,Chip	1SS355
	DW19	79060019	Diode,Chip	1SS355
	DW20	79060028	Diode,Chip	1SS226
	DW21	79060028	Diode,Chip	1SS226
	DW22	79060019	Diode,Chip	1SS355
	DX01	79060028	Diode,Chip	1SS226
	DX02	79060028	Diode,Chip	1SS226
	DX03	79060028	Diode,Chip	1SS226
	DX04	79060028	Diode,Chip	1SS226
	DX05	79060028	Diode,Chip	1SS226
	DX06	79060028	Diode,Chip	1SS226
	DX07	79060028	Diode,Chip	1SS226
	DX08	79060028	Diode,Chip	1SS226
	DX09	79060028	Diode,Chip	1SS226
			- MISCELLANEOUS -	
	B701	P000377950	Buzzer	PS1240P02AT
	J701	P000416610	Jack,3.5	LGY2502-0200F
	JX01	P000435170	Jack	LAP5100-1001F
	JX02	P000434970	Connector,RGB	MRC-021V-29PC

*a: for RD-XS34SB, b: for RD-XS34SF, c: for RD-XS34SG

	Location No.	Part No.	Description	
	JX03	P000434970	Connector,RGB	MRC-021V-29PC
	K901	P000405010	Relay	ATX209
b,c	K902	P000405010	Relay	ATX209
b,c	K903	P000405010	Relay	ATX209
	X700	P000391040	Crystal	
	X701	P000363400	Oscillator,Crystal	
	X702	P000395090	Resonator,Ceramic	FCR4.43MC5AT
	X703	P000405000	Resonator,Ceramic	CSBLA500KEC8-BO
	XM01	P000395100	Resonator,Ceramic	AT-41-18.432M
	EU55	P000435080	PC Board Assy	Front Jack
			- MISCELLANEOUS -	
	J170	P000387300	Jack,DV	
	J171	P000402780	Jack,3P+1Y/C	
	EU82	P000437420	PC Board Assy	Tuner
!	MB01	P0000405090	Tuner	TCPM0601PD15A

Specification

RD-XS34SB 1/2

■ Power requirement during operation
39W

■ Power requirement at standby
4.3W (Eco mode: off)
1.9W (Eco mode: on)

■ Power supply
230 - 240V AC, 50/60 Hz

■ Mass
5.2kg

■ External dimension
Width 430 x Height 58 x Depth 336mm

■ Tuner
System: Frequency synthesizer
Channel coverage: PAL I VHF: A-J, 11, 13, E2-E12
UHF: E21-E69
CATV: X, Y, Z, S1-S41, 1-53
(48MHz to 464MHz, 8MHz steps)
Stereo: NICAM-I

■ Antenna input/output terminal
VHF/UHF: 75Ω, IEC Connector

■ Signal system
Standard PAL Colour TV system

■ Laser
Semiconductor laser, Wavelength: 650nm/780nm

■ Format
DVD-VR format
DVD-Video format

■ Image recording system
MPEG2

■ Sound recording system
Dolby Digital M1, M2, Linear PCM

■ VIDEO input
1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 in front
SCART socket x 2 at rear

■ VIDEO output
1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 at rear
SCART socket x 2 at rear

■ S-VIDEO input
(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 in front
Mini DIN4 Pin x 1 system
SCART socket x 1 at rear

■ S-VIDEO output
(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 at rear
Mini DIN4 Pin x 1 system
SCART socket x 1 at rear

■ COMPONENT output (Y, P_B, P_R)
Y output (green), 1.0Vp-p (75Ω),
Sync signal negative, Pin jack x 1 system
P_B, P_R output (blue, red), 0.7Vp-p (75Ω),
Pin jack x 1 system each

■ RGB input
(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
SCART socket x 1 at rear (AV2 only)

■ RGB output
(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
SCART socket x 1 at rear (AV1 only)

■ AUDIO input
2.0V (rms), 50kΩ or below, pin jack
(L, R) x 1 system
1 in front
SCART socket x 2 at rear

■ AUDIO output
2.0V (rms), 200Ω or above, pin jack
(L, R) x 1 system
1 at rear
SCART socket x 2 at rear

RD-XS34SB 2/2

■ DIGITAL AUDIO OUTPUT BITSTREAM/PCM (OPTICAL terminal)

Optical connector x 1 system

■ DIGITAL AUDIO OUTPUT BITSTREAM/PCM (COAXIAL terminal)

0.5Vp-p (75Ω), pin jack x 1 system

■ CHANNEL CHANGE IR jack

This is for connection of the supplied IR control cable only.

■ DV input

4-pin x 1 in front

■ Remote control

Wireless remote control (SE-R0132)

■ Operating conditions

Temperature: 5°C ~ 35°C,
Position: Horizontal

■ Clock display

24 hour digital display

■ Clock accuracy

Quartz (monthly deviation: approximately ±30 seconds)

■ Supplied Accessories

- Remote control 1
- Batteries (R03) 2
- Power cord 1
- Coaxial cable 1
- Video/Audio cable 1
- IR control cable 1
- OWNER'S MANUAL (INSTALLATION GUIDE) 1
- OWNER'S MANUAL (OPERATIONS) 1
- Quick Reference 1

- The design and specifications may change without prior notice.
- The Illustrations and screens described in this manual may be exaggerated or simplified for easy recognition and may be slightly different from the actual unit.

Specification

RD-XS34SF 1/2

■ Power requirement during operation
39W

■ Power requirement at standby
4.3W (Eco mode: off)
1.9W (Eco mode: on)

■ Power supply
230 - 240V AC, 50/60 Hz

■ Mass
5.2kg

■ External dimension
Width 430 x Height 58 x Depth 336mm

■ Tuner
System: Frequency synthesizer
Channel coverage:

SECAM L	VHF:	FB, FC1, FC, F1-F6
	UHF:	E21-E69
	CATV:	B-Q, H1-H21, 1-18, 70-99
PAL B/G	VHF:	A-H, E2-E12, M4-M10,
SECAM B/G		R1-R12, U1-U15
	UHF:	E21-E69
	CATV:	S1-S41, X, Y, Z, Z+1, Z+2
PAL D/K	VHF:	A-H, E2-E12, M4-M10,
SECAM D/K		R1-R12, U1-U15
	UHF:	E21-E69
	CATV:	S1-S41, X, Y, Z, Z+1, Z+2

■ Aerial input/output terminal
VHF/UHF: 75Ω, IEC Connector

■ Signal system
Standard PAL/SECAM Colour TV system

■ Laser
Semiconductor laser, Wavelength: 650nm/780nm

■ Format
DVD-VR format
DVD-Video format

■ Image recording system
MPEG2

■ Sound recording system
Dolby Digital M1, M2, Linear PCM

■ VIDEO input
1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 in front
PERITEL socket x 2 at rear

■ VIDEO output
1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 at rear
PERITEL socket x 2 at rear

■ S-VIDEO input
(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 in front
Mini DIN4 Pin x 1 system
PERITEL socket x 1 at rear

■ S-VIDEO output
(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 at rear
Mini DIN4 Pin x 1 system
PERITEL socket x 1 at rear

■ COMPONENT output (Y, P_B, P_R)
Y output (green), 1.0Vp-p (75Ω),
Sync signal negative, Pin jack x 1 system
P_B, P_R output (blue, red), 0.7Vp-p (75Ω),
Pin jack x 1 system each

■ RGB input
(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
PERITEL socket x 1 at rear (AV2 only)

■ RGB output
(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
PERITEL socket x 1 at rear (AV1 only)

■ AUDIO input
2.0V (rms), 50kΩ or below, pin jack
(L, R) x 1 system
1 in front
PERITEL socket x 2 at rear

■ AUDIO output
2.0V (rms), 200Ω or above, pin jack
(L, R) x 1 system
1 at rear
PERITEL socket x 2 at rear

RD-XS34SF 2/2

■ DIGITAL AUDIO OUTPUT BITSTREAM/PCM (OPTICAL terminal)

Optical connector x 1 system

■ DIGITAL AUDIO OUTPUT BITSTREAM/PCM (COAXIAL terminal)

0.5Vp-p (75Ω), pin jack x 1 system

■ CHANNEL CHANGE IR jack

This is for connection of the supplied IR control cable only.

■ DV input

4-pin x 1 in front

■ Remote control

Wireless remote control (SE-R0133)

■ Operating conditions

Temperature: 5°C ~ 35°C,
Position: Horizontal

■ Clock display

24 hour digital display

■ Clock accuracy

Quartz (monthly deviation: approximately ±30 seconds)

■ Supplied Accessories

- Remote control 1
- Batteries (R03) 2
- Power cord 1
- Coaxial cable 1
- Video/Audio cable 1
- IR control cable 1
- OWNER'S MANUAL (INSTALLATION GUIDE) 1
- OWNER'S MANUAL (OPERATIONS) 1
- Quick Reference 1

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Specification

RD-XS34SG 1/2

■ Power requirement during operation
39W

■ Power requirement at standby
4.3W (Eco mode: off)
1.9W (Eco mode: on)

■ Power supply
230 - 240V AC, 50/60 Hz

■ Mass
5.2kg

■ External dimension
Width 430 x Height 58 x Depth 336mm

■ Tuner
System: Frequency synthesizer
Channel coverage:

PAL B/G	VHF:	A-H, E2-E12, M4-M10,
SECAM B/G		R1-R12, U1-U5, 0-12, 5A, 9A
	UHF:	E21-E69, 28-69
	CATV:	S1-S41, X, Y, Z, Z+1, Z+2
PAL D/K	VHF:	A-H, E2-E12, M4-M10,
SECAM D/K		R1-R12, U1-U15
	UHF:	E21-E69
	CATV:	S1-S41, X, Y, Z, Z+1, Z+2
SECAM L	VHF:	FB, FC1, FC, F1-F6
	UHF:	E21-E69
	CATV:	B-Q, H1-H21, 1-18, 70-99

■ Aerial input/output terminal
VHF/UHF: 75Ω, IEC Connector

■ Signal system
Standard PAL/SECAM Colour TV system

■ Laser
Semiconductor laser, Wavelength: 650nm/780nm

■ Format
DVD-VR format
DVD-Video format

■ Image recording system
MPEG2

■ Sound recording system
Dolby Digital M1, M2, Linear PCM

■ VIDEO input
1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 in front
SCART socket x 2 at rear

■ VIDEO output
1.0Vp-p (75Ω), Sync signal negative,
Pin jack x 1 system, 1 at rear
SCART socket x 2 at rear

■ S-VIDEO input
(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 in front
Mini DIN4 Pin x 1 system
SCART socket x 1 at rear (AV2 only)

■ S-VIDEO output
(Y) 1.0Vp-p (75Ω), Sync signal negative,
(C) 0.286Vp-p (75Ω), 1 at rear
Mini DIN4 Pin x 1 system
SCART socket x 1 at rear (AV1 only)

■ COMPONENT output (Y, P_B, P_R)
Y output (green), 1.0Vp-p (75Ω),
Sync signal negative, Pin jack x 1 system
P_B, P_R output (blue, red), 0.7Vp-p (75Ω),
Pin jack x 1 system each

■ RGB input
(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
SCART socket x 1 at rear (AV2 only)

■ RGB output
(R) 0.7Vp-p (75Ω)
(G) 0.7Vp-p (75Ω)
(B) 0.7Vp-p (75Ω)
SCART socket x 1 at rear (AV1 only)

■ AUDIO input
2.0V (rms), 50kΩ or below, pin jack
(L, R) x 1 system
1 in front
SCART socket x 2 at rear

■ AUDIO output
2.0V (rms), 200Ω or above, pin jack
(L, R) x 1 system
1 at rear
SCART socket x 2 at rear

RD-XS34SG 2/2

■ DIGITAL AUDIO OUTPUT BITSTREAM/PCM (OPTICAL terminal)

Optical connector x 1 system

■ DIGITAL AUDIO OUTPUT BITSTREAM/PCM (COAXIAL terminal)

0.5Vp-p (75Ω), pin jack x 1 system

■ CHANNEL CHANGE IR jack

This is for connection of the supplied IR control cable only.

■ DV input

4-pin x 1 in front

■ Remote control

Wireless remote control (SE-R0133)

■ Operating conditions

Temperature: 5°C ~ 35°C,
Position: Horizontal

■ Clock display

24 hour digital display

■ Clock accuracy

Quartz (monthly deviation: approximately ±30 seconds)

■ Supplied Accessories

- Remote control 1
- Batteries (R03) 2
- Power cord 1
- Coaxial cable 1
- Video/Audio cable 1
- IR control cable 1
- OWNER'S MANUAL (INSTALLATION GUIDE) 1
- OWNER'S MANUAL (OPERATIONS) 1
- Quick Reference 1

- The design and specifications may change without prior notice.
- The Illustrations and screens described in this manual may be exaggerated or simplified for easy recognition and may be slightly different from the actual unit.

TOSHIBA CORPORATION
1 1, SHIBAURA 1 CHOME, MINATO KU, TOKYO 105 8001, JAPAN

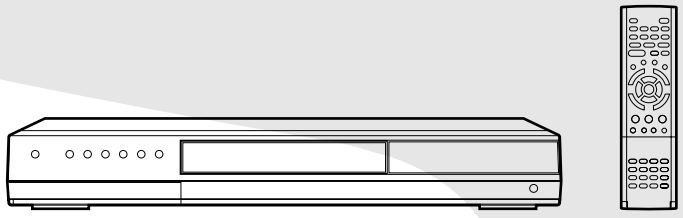
TOSHIBA

FILE NO. 810-200512

SERVICE MANUAL

HDD/DVD VIDEO RECORDER

RD-XS34SB
RD-XS34SF
RD-XS34SG



Feb., 2005 Ⓢ

SECTION 3
SERVICING DIAGRAMS

1. CIRCUIT SYMBOLS AND SUPPLEMENTARY EXPLANATION

1-1. Precautions for Part Replacement

- In the schematic diagram, parts marked ⚠ (ex. ⚠ F801) are critical part to meet the safety regulations, so always use the parts bearing specified part codes (SN) when replacing them.
- Using the parts other than those specified shall violate the regulations, and may cause troubles such as operation failures, fire etc.

1-2. Solid Resistor Indication

Unit	None ..... Ω K ..... kΩ M ..... MΩ
Tolerance	None ..... ±5% B ..... ±0.1% C ..... ±0.25% D ..... ±0.5% F ..... ±1% G ..... ±2% K ..... ±10% M ..... ±20%
Rated Wattage	(1) Chip Parts None ..... 1/16W (2) Other Parts None ..... 1/6W Other than above, described in the Circuit Diagram.
Type	None ..... Carbon film S ..... Solid R ..... Oxide metal film M ..... Metal film W ..... Cement FR ..... Fusible

Eg. 1

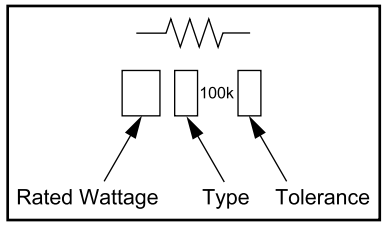


Fig. 3-1-1

1-3. Capacitance Indication

Symbol	..... Electrolytic, Special electrolytic NP ..... Non polarity electrolytic ..... Ceramic, plastic M ..... Film ..... Trimmer
Unit	None ..... F μ ..... μF p ..... pF
Rated voltage	None ..... 50V For other than 50V and electrolytic capacitors, described in the Circuit Diagram.
Tolerance	(1) Ceramic, plastic, and film capacitors of which capacitance are more than 10 pF. None ..... ±5% or more B ..... ±0.1% C ..... ±0.25% D ..... ±0.5% F ..... ±1% G ..... ±2% (2) Ceramic, plastic, and film capacitors of which capacitance are 10 pF or less. None ..... more than ±5 pF B ..... ±0.1 pF C ..... ±0.25 pF (3) Electrolytic, Trimmer Tolerance is not described.
Temperature characteristic (Ceramic capacitor)	None ..... SL For others, temperature characteristics are described. (For capacitors of 0.01 μF and no indications are described as F.)
Static electricity capacity (Ceramic capacitor)	Sometimes described with abbreviated letters as shown in Eg. 3.

Eg. 2

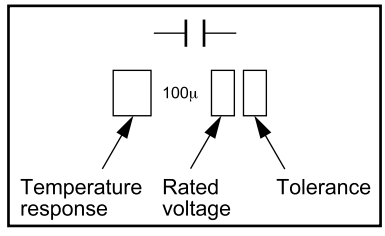


Fig. 3-1-2

Eg. 3

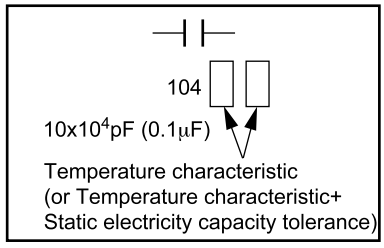


Fig. 3-1-3

1-4. Inductor Indication

Unit	None ..... H μ ..... μH m ..... mH
Tolerance	None .....±5% B .....±0.1% C .....±0.25% D .....±0.5% F .....±1% G .....±2% K .....±10% M .....±20%

Eg. 4

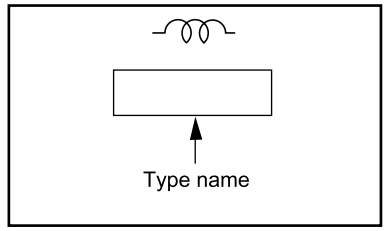


Fig. 3-1-4

1-5. Waveform and Voltage Measurement

- The waveforms for CD/DVD and RF shown in the circuit diagrams are obtained when a test disc is played back.
- All voltage values except the waveforms are expressed in DC and measured by a digital voltmeter.

Eg. 5

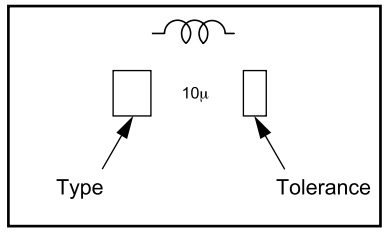
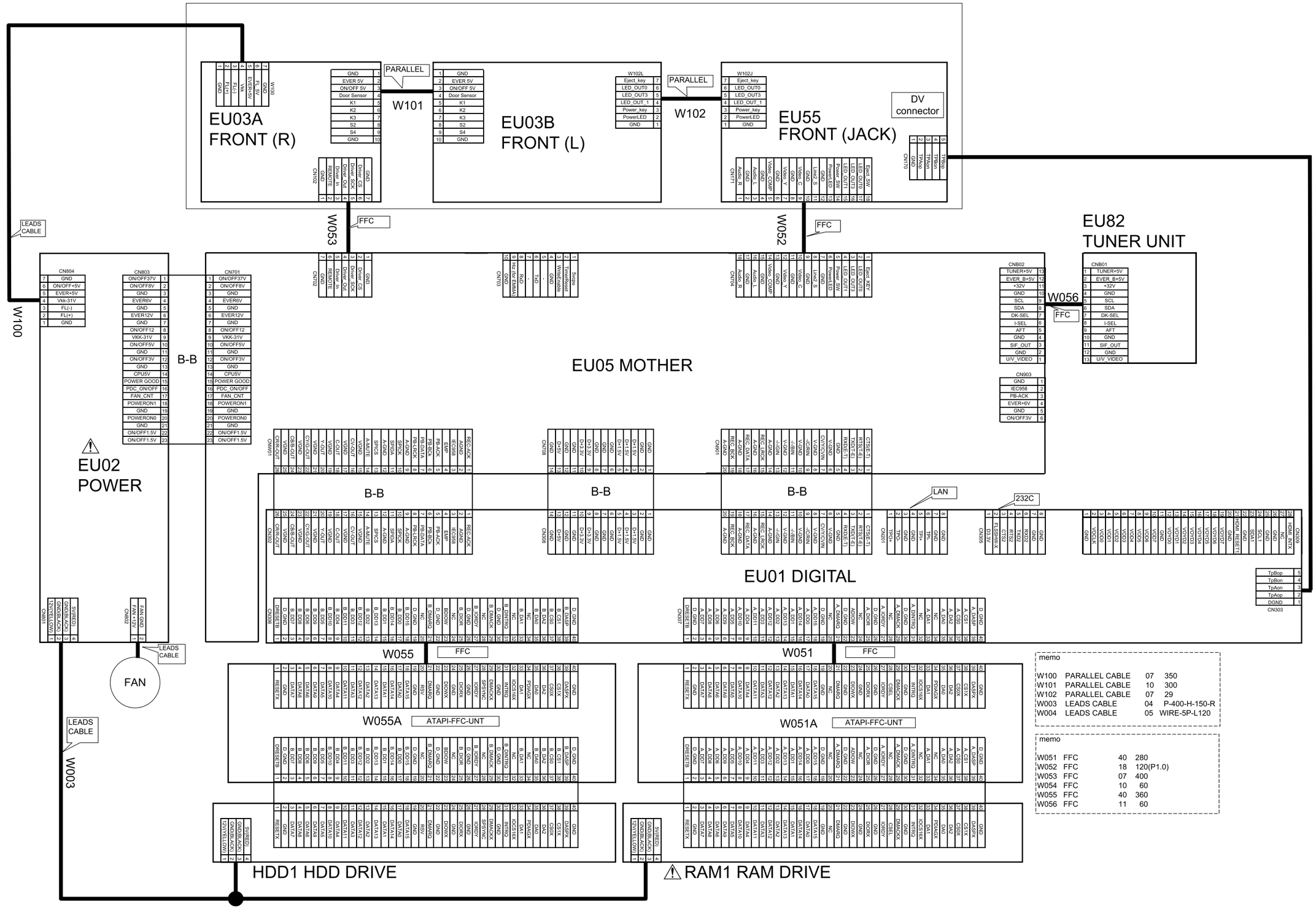


Fig. 3-1-5

1-6. Others

- The parts indicated with "NC" or "KETU" etc. are not used in the circuits of this model.

2. PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM



memo

W100	PARALLEL CABLE	07	350
W101	PARALLEL CABLE	10	300
W102	PARALLEL CABLE	07	29
W003	LEADS CABLE	04	P-400-H-150-R
W004	LEADS CABLE	05	WIRE-5P-L120

memo

W051	FFC	40	280
W052	FFC	18	120(P1.0)
W053	FFC	07	400
W054	FFC	10	60
W055	FFC	40	360
W056	FFC	11	60

Fig. 3-2-1

3. BLOCK DIAGRAMS

3-1. Overall Block Diagram

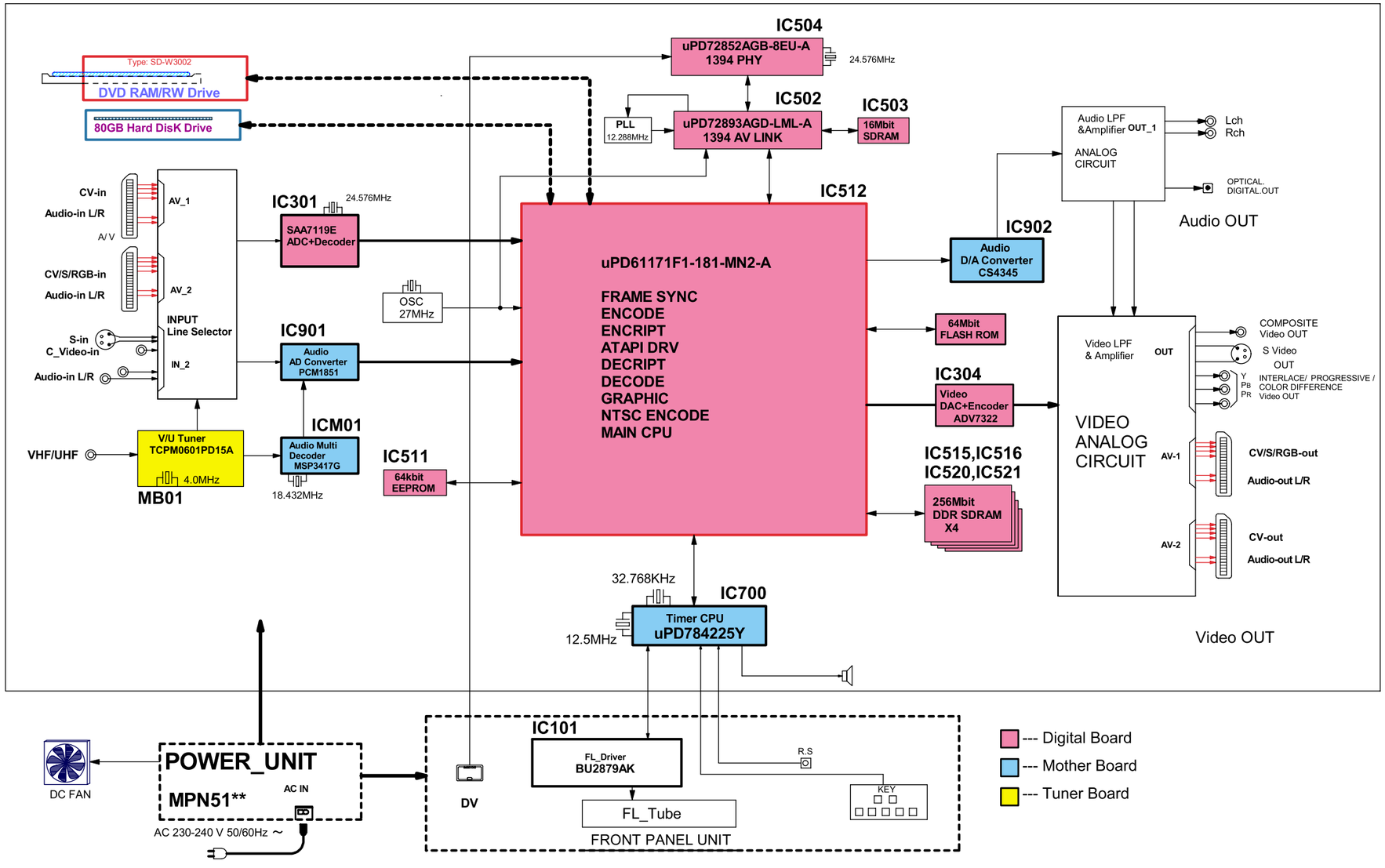


Fig. 3-3-1

4. CIRCUIT DIAGRAMS

4-1. Power Supply Circuit Diagram

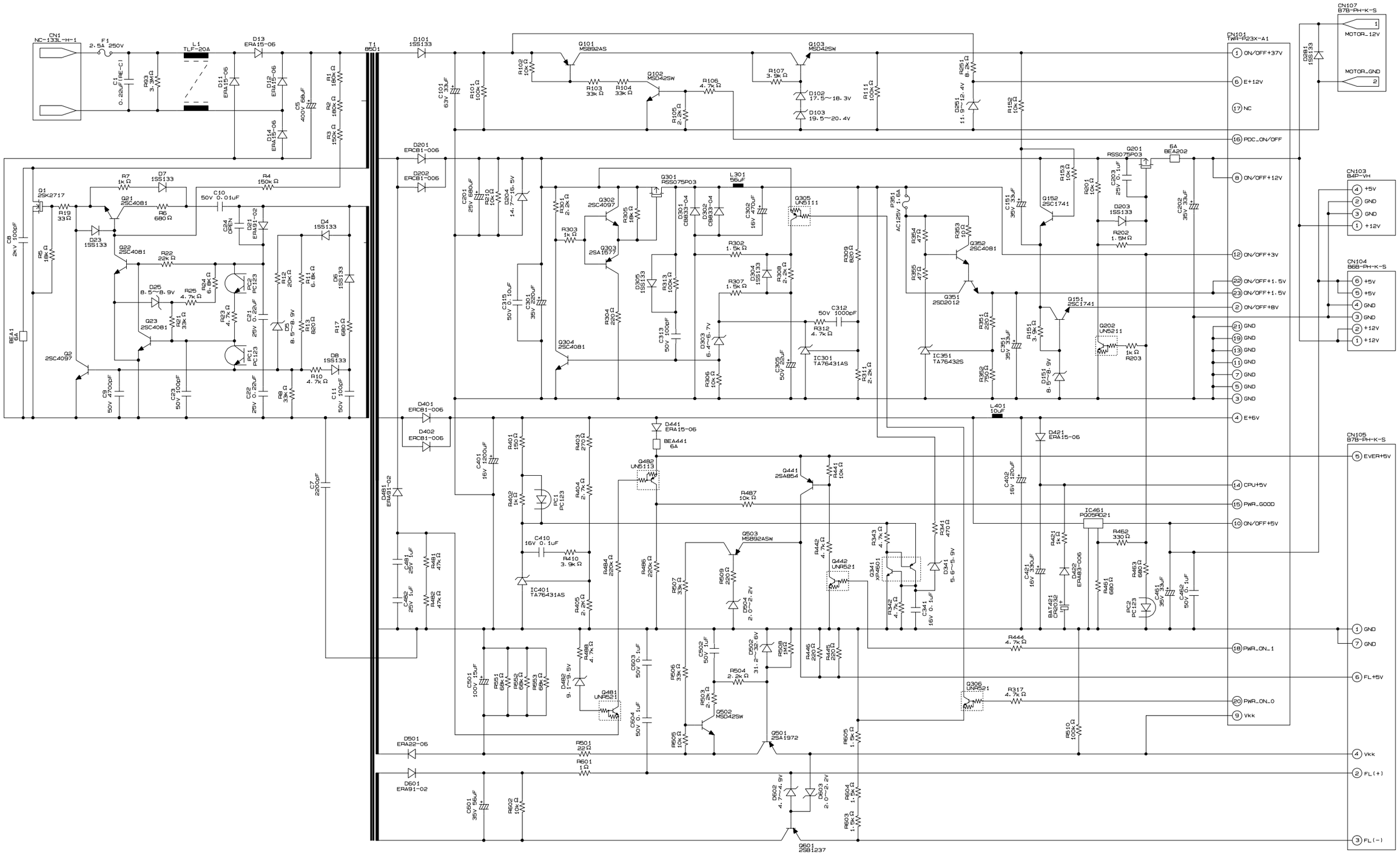


Fig. 3-4-1

4-2. Front Circuit Diagram

4-2-1. Front Jack Circuit Diagram

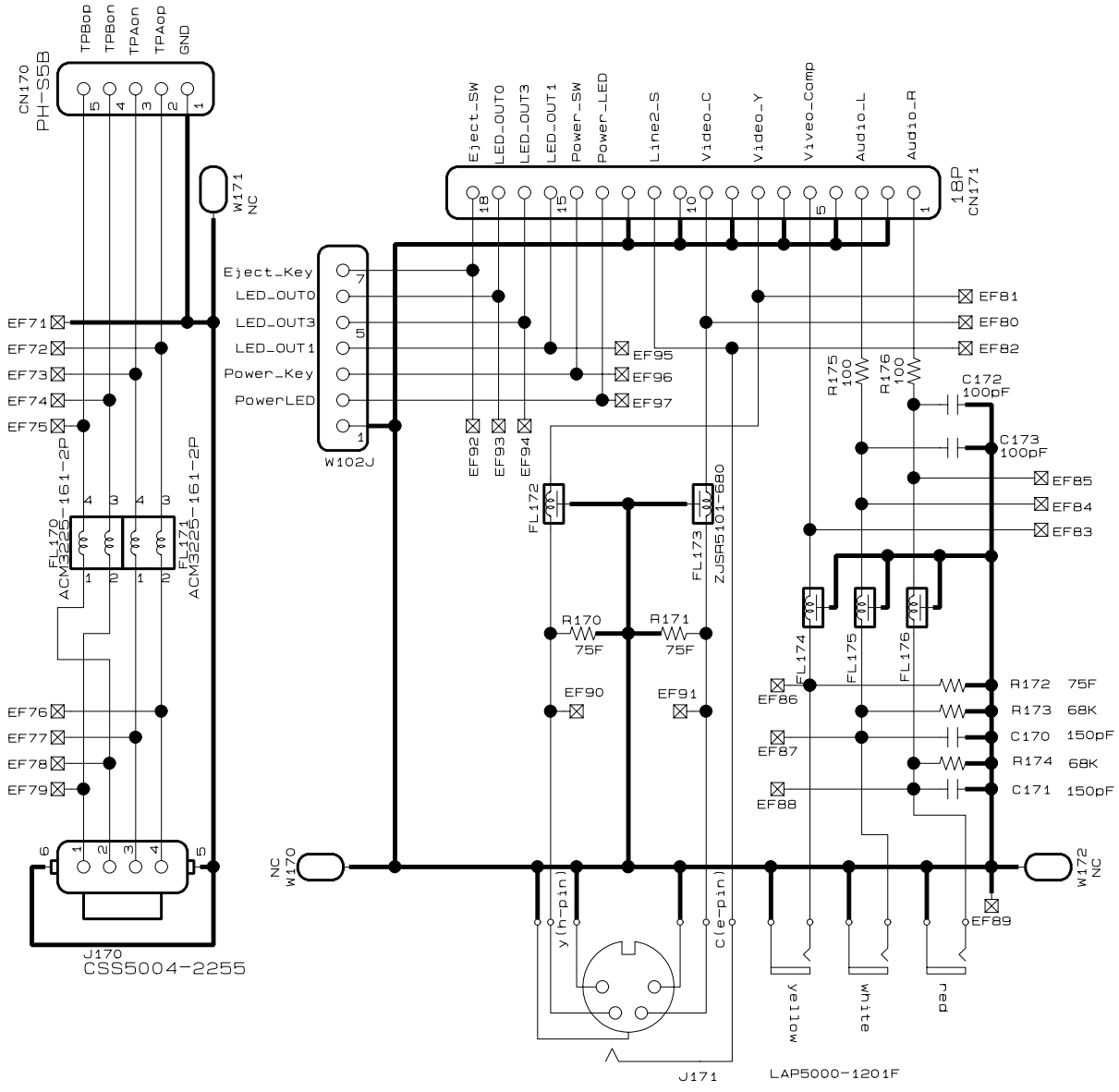


Fig. 3-4-2

A B C D E F G

4-2-2. Front Circuit Diagram (L/R)

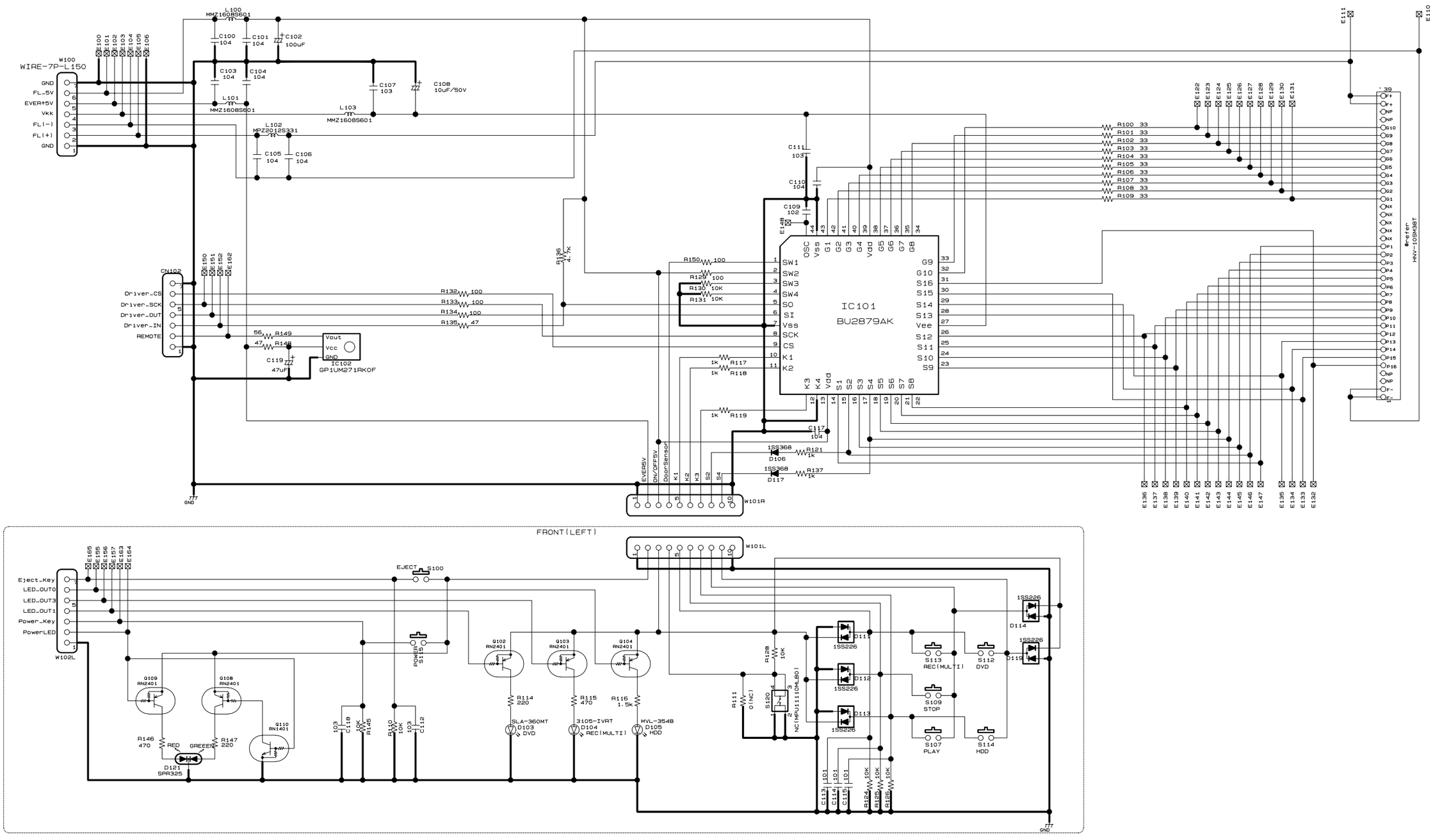
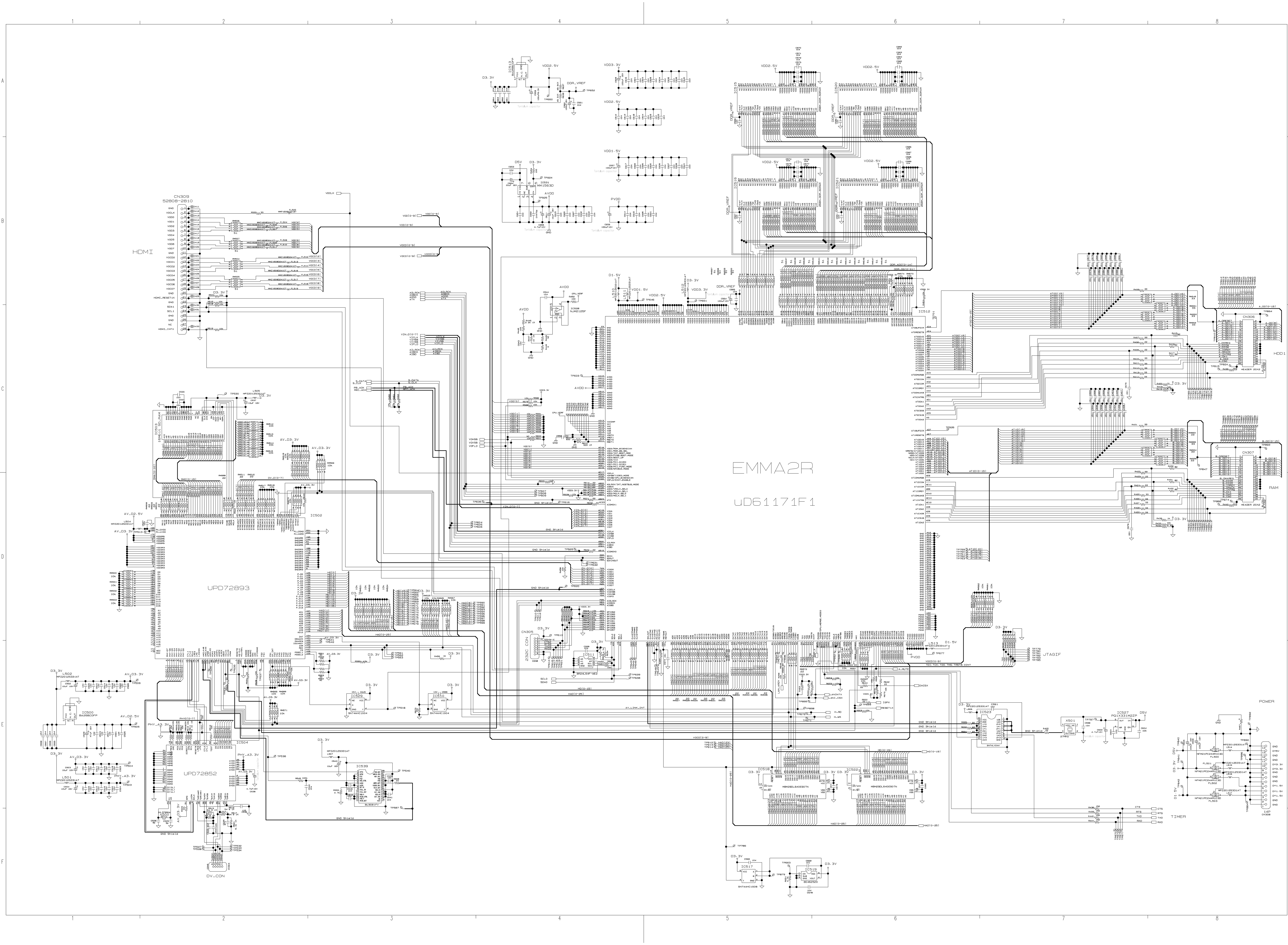


Fig. 3-4-3

4-3. Digital Circuit Diagram

4-3-1. Digital 1 Circuit Diagram

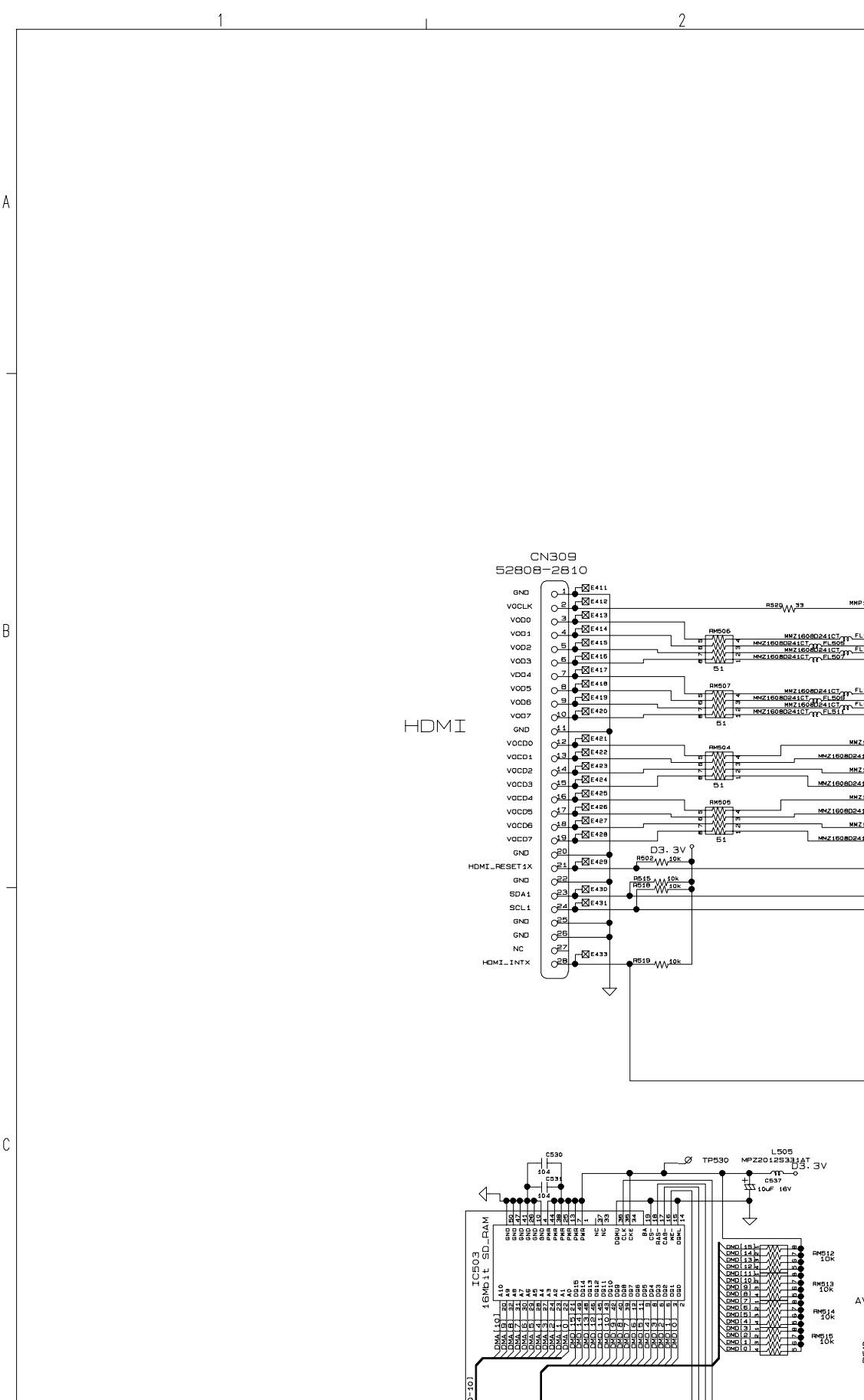


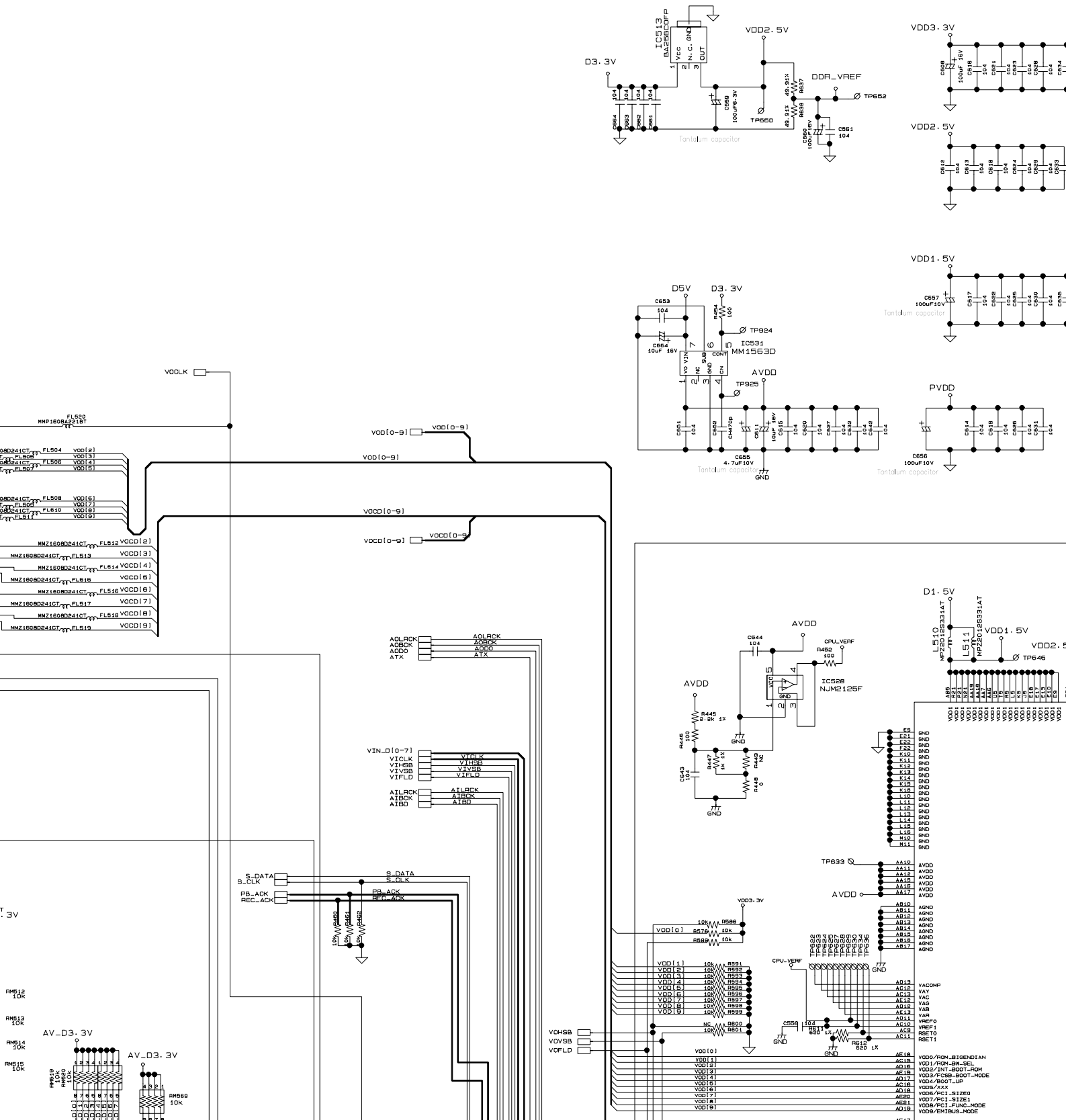
EMMA2R
uD61171F1
UPD72893
UPD72852
IC502
IC503
16Mbit SD_RAM
IC504
IC510
IC511
IC512
IC513
IC515
IC516
IC517
IC518
IC519
IC520
IC521
IC522
IC523
IC527
IC528
IC529
IC531
IC539
CN309
52808-2810
HDMI
CN305
232C CON
CN303
DV_CON
CN306
HDD1
CN307
RAM
CN308
POWER
TIMER
JTAGIF
X501
X500
MBM29DL640E90TN
256M_DDR_SDRAM
BA25BC0FP
NJM2125F
MM1563D
BU3081FV
BR24L64F-WE2
BD46252G
SN74AHC1G04
SN74AHC1G08
SN74LV244
PQ1X331M2ZP
GND Shield

Fig. 3-4-4

4-3. Digital Circuit Diagram

4-3-1. Digital 1 Circuit Diagram

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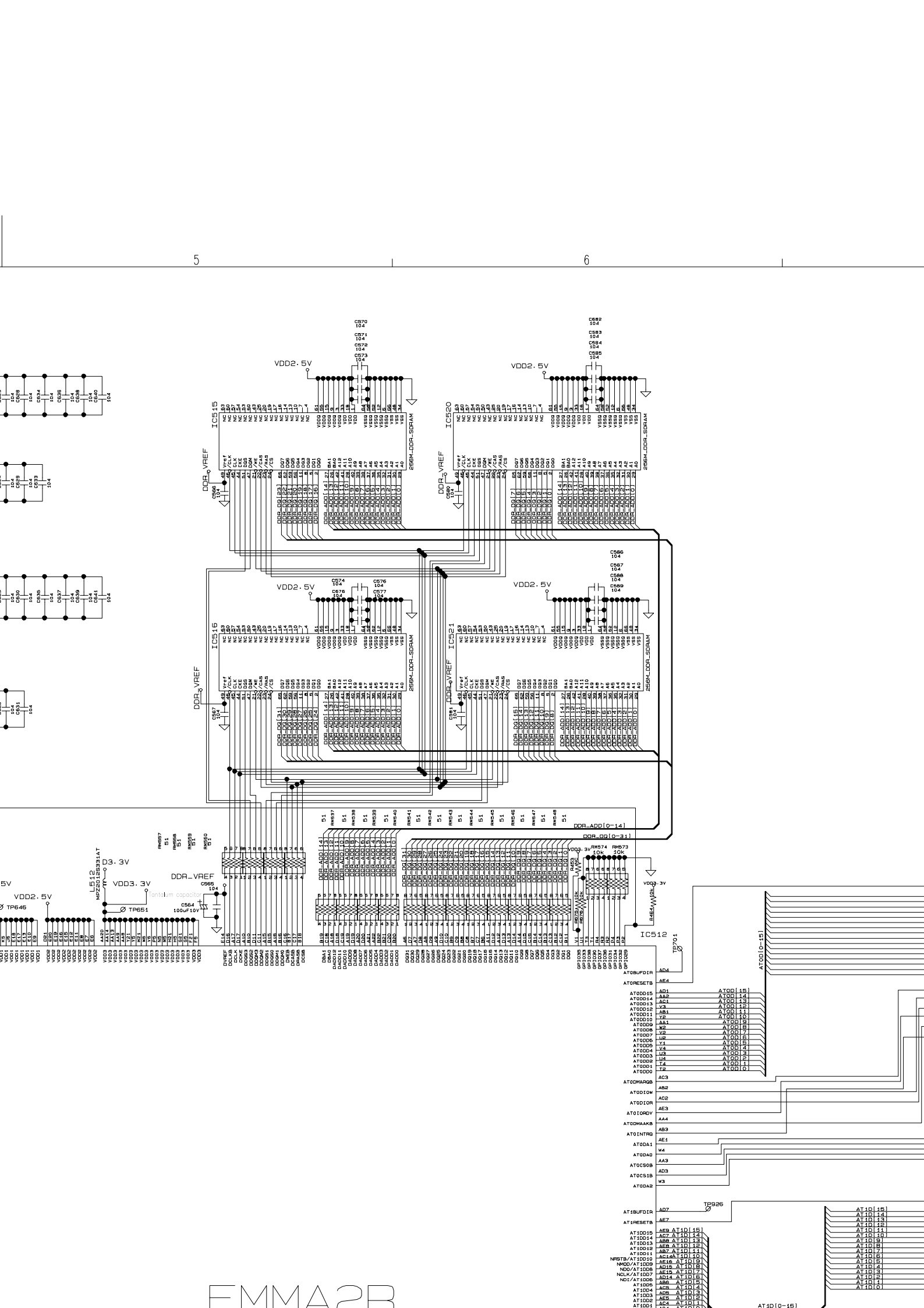
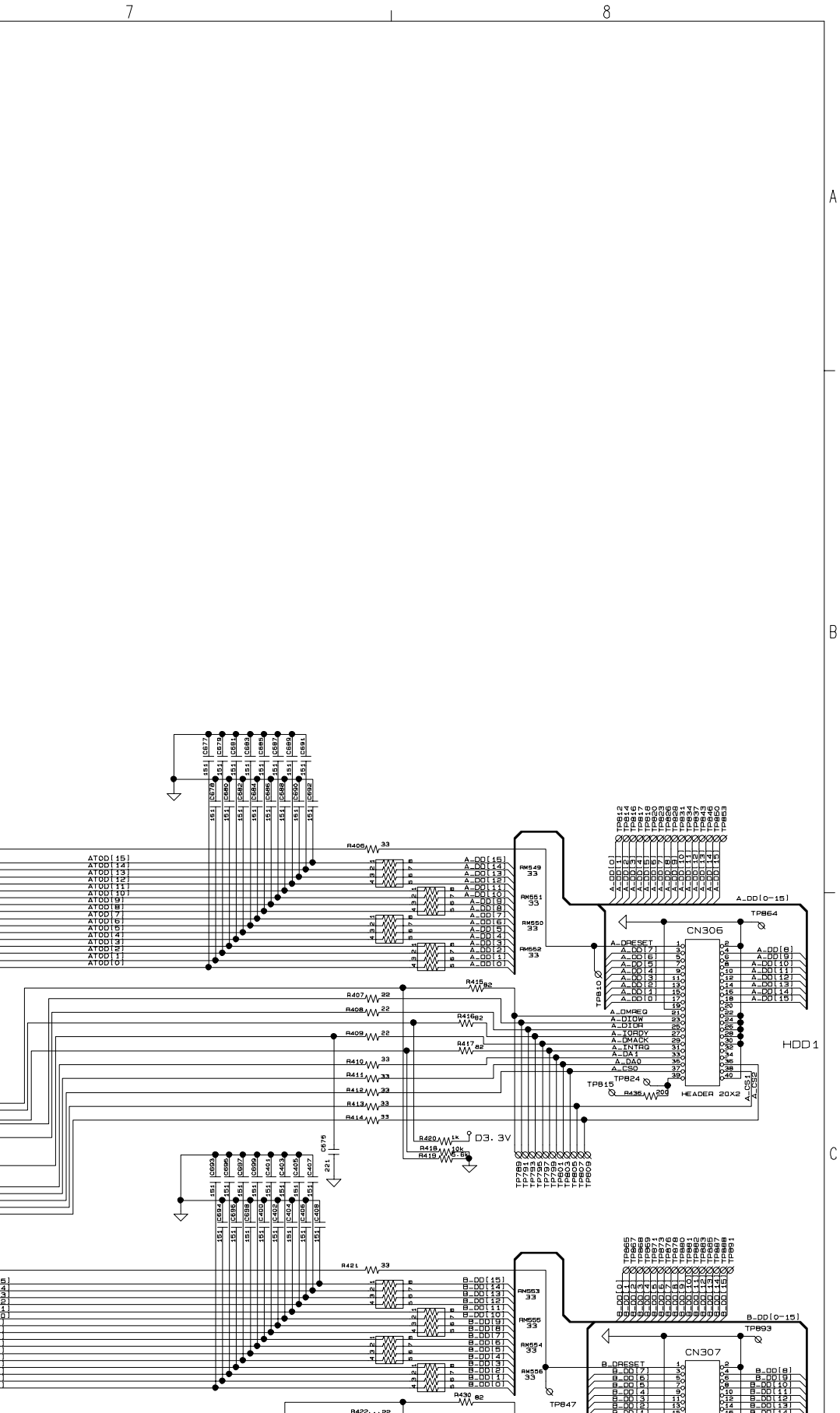
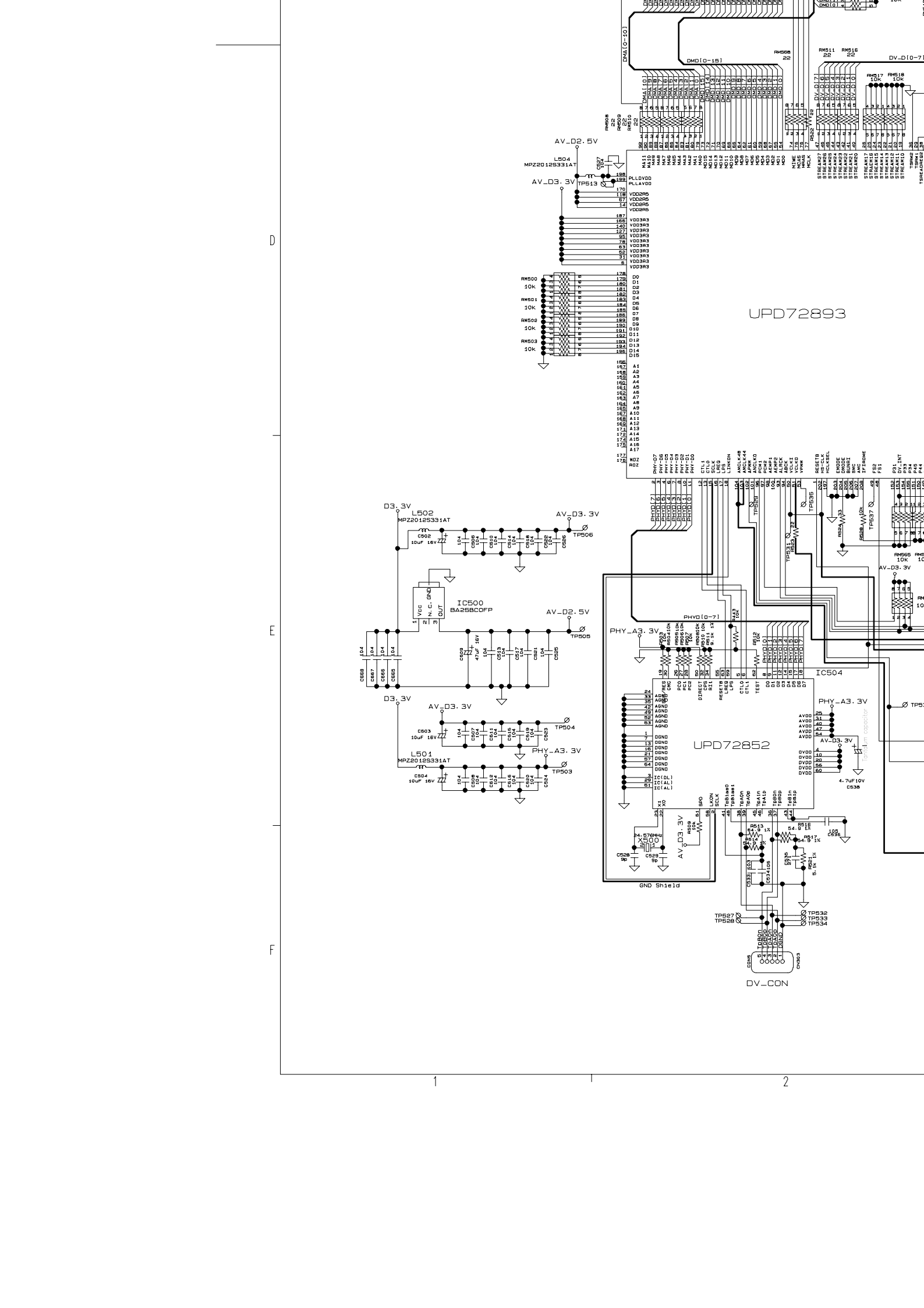
D3.3V
VDD2.5V
DDR_VREF
TP652
TP650
VDD3.3V
VDD2.5V
VDD1.5V
D5V
D3.3V
IC531
MM1563D
AVDD
TP925
TP924
PVDD
VOCLK
VOD[0-9]
VOCD[0-9]
AOLACK
AOBCK
AODO
ATX
VIN_D[0-7]
VICLK
VIHSB
VIVSB
VIFLD
AILACK
AIBCK
AIBO
S_DATA
S_CLK
PB_ACK
REC_ACK
AV_D3.3V
D1.5V
IC528
NJM2125F
CPU_VERF
VDD3.3V
VOHSB
VDVSB
VDFLD
VDD0/ROM_BIGENDIAN
VDD1/ROM_BW_SEL
VDD2/INT_BOOT_ROM
VDD3/FCSB_BOOT_MODE
VDD4/BOOT_UP
VDD5/XX
VDD6/PCI_SIZE0
VDD7/PCI_SIZE1
VDD8/PCI_FUNC_MODE
VDD9/EMIBUS_MODE


5
6
IC515
IC520
IC516
IC521
IC512
256M-DDR-SDRAM
DDR_VREF
VDD2.5V
VDD3.3V
DDR_ADD[0-14]
DDR_DQ[0-31]
AT0D[0-15]
AT1D[0-15]
FMMA2R


7
8
A
B
C
HDD1
CN306
CN307
HEADER 20X2
D3.3V
A_DD[0~15]
B_DD[0~15]
A_DMREQ
A_DIOW
A_DIOR
A_IORDY
A_DMACK
A_INTRQ
A_DA1
A_DA0
A_CS0
A_CS1
A_CS3
B_DMREQ
B_DIOW
B_DIOR
B_IORDY
B_DMACK
B_INTRQ
B_DA1
B_DA0
B_CS0
B_CS1
B_CS3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UPD72852
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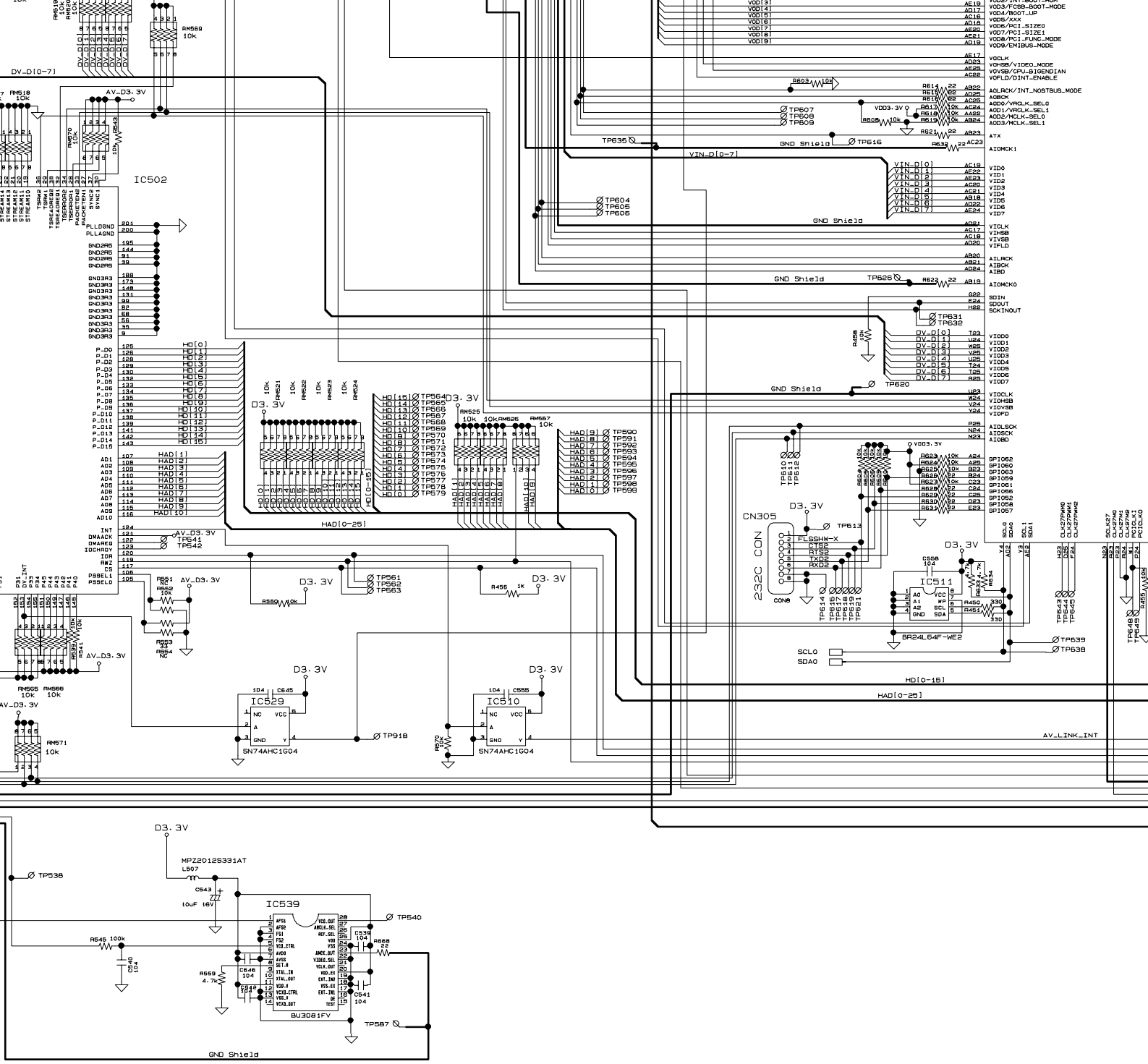
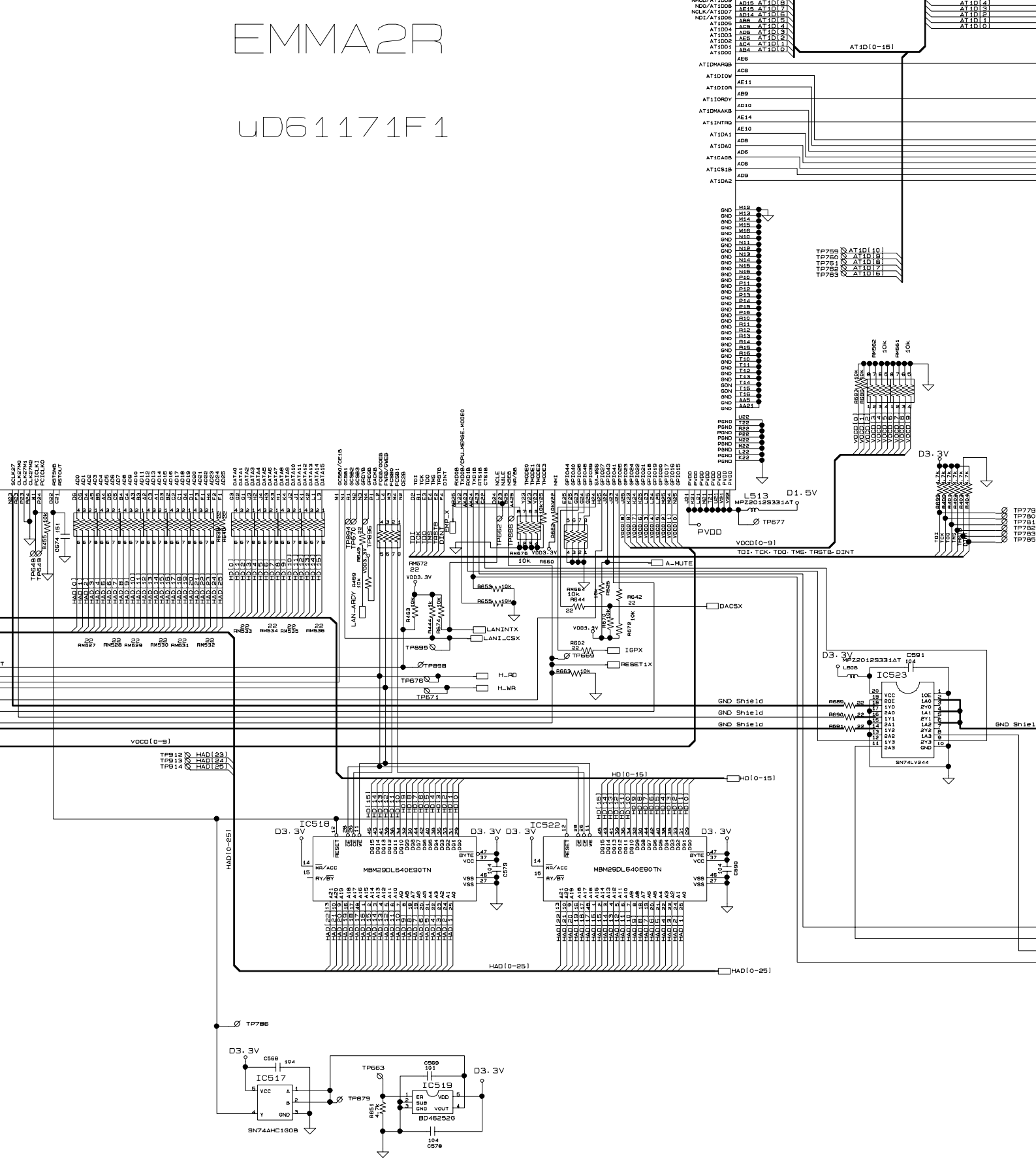
BA25BCOFP
IC504
L502
MPZ2012S331AT
L501
MPZ2012S331AT
L504
MPZ2012S331AT
AV_D2.5V
AV_D3.3V
D3.3V
PHY_A3.3V
DV_CON
GND Shield
DMA[0-10]
DMD[0-15]
DV_D[0-7]
PHY0[0-7]


IC502
IC529
IC510
IC511
IC539
CN305
SN74AHC1G04
BR24L64F-WE2
BU3081FV
DV_D[0-7]
VIN_D[0-7]
HD[0-15]
HAD[0-25]
AV_LINK_INT
SCL0
SDA0
GND Shield
D3.3V
AV_D3.3V

D3.3V
MPZ2012S331AT
L507
IC539
BU3081FV
GND Shield

EMMA2R

uD61171F1



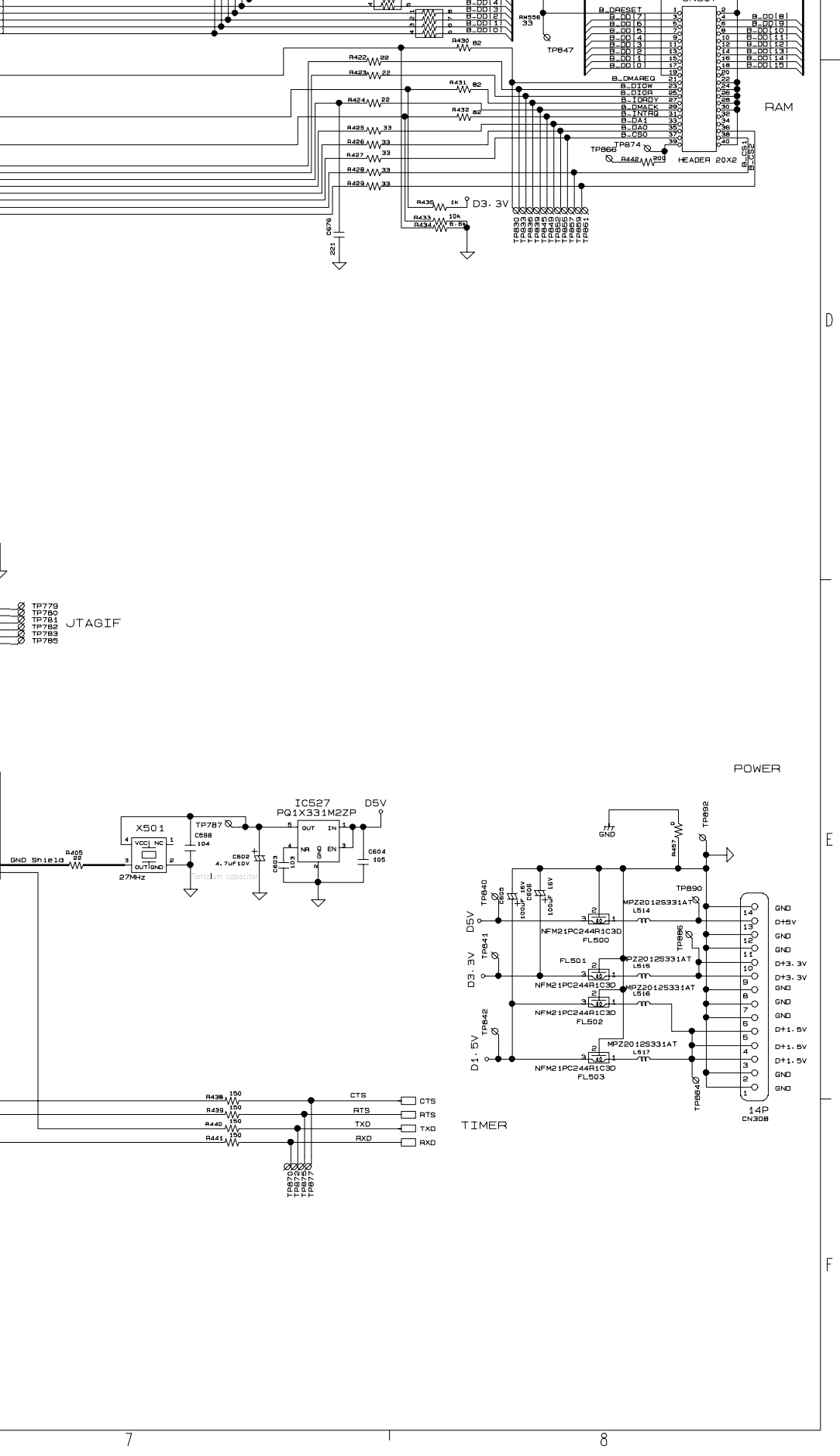

RAM
HEADER 20X2
D3. 3V
JTAGIF
POWER
TIMER
IC527
PQ1X331M2ZP
D5V
X501
27MHz
GND Shield
CTS
RTS
TXD
RXD
14P
CN308

Fig. 3-4-4

4-3-2. Digital 2 Circuit Diagram

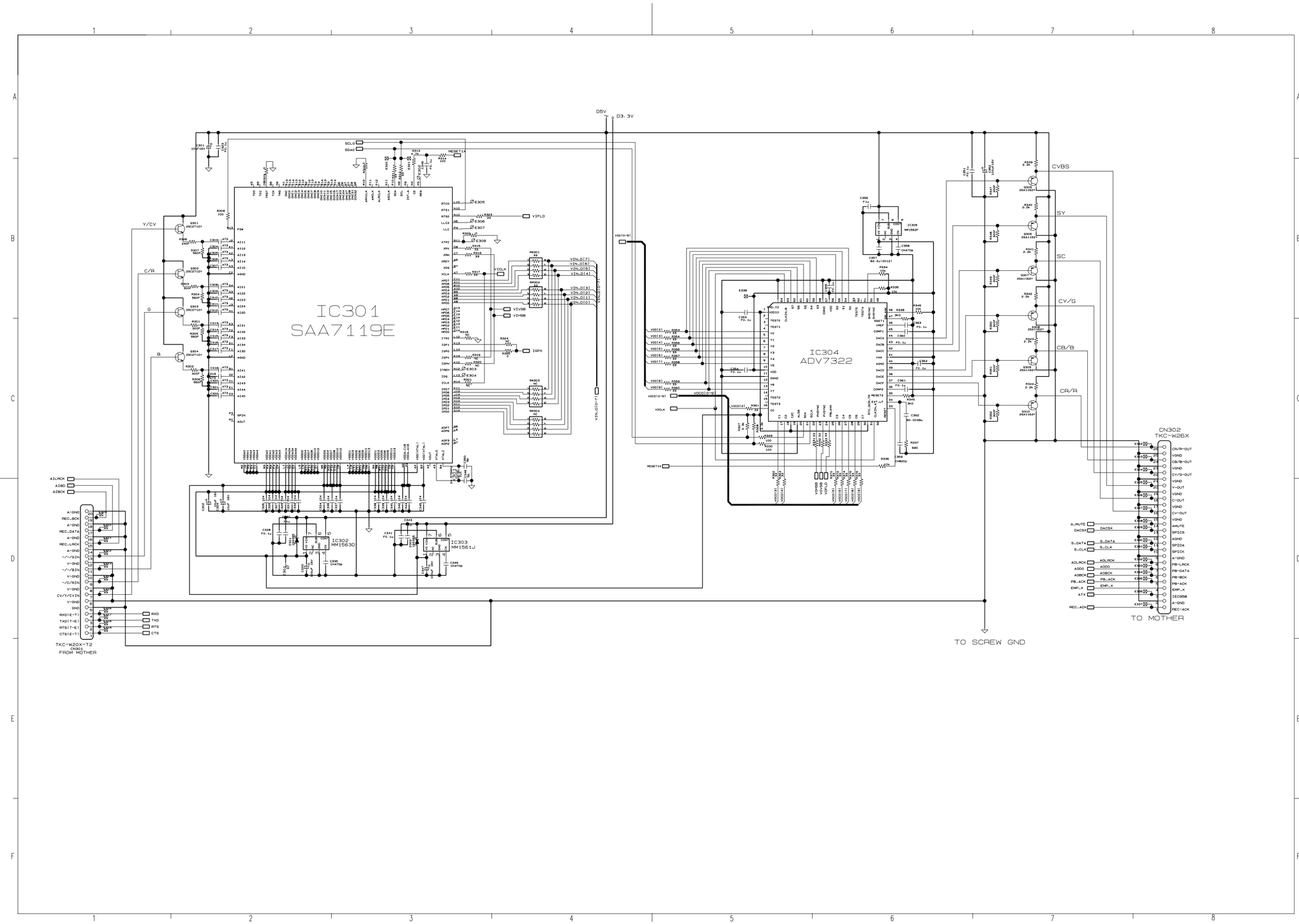
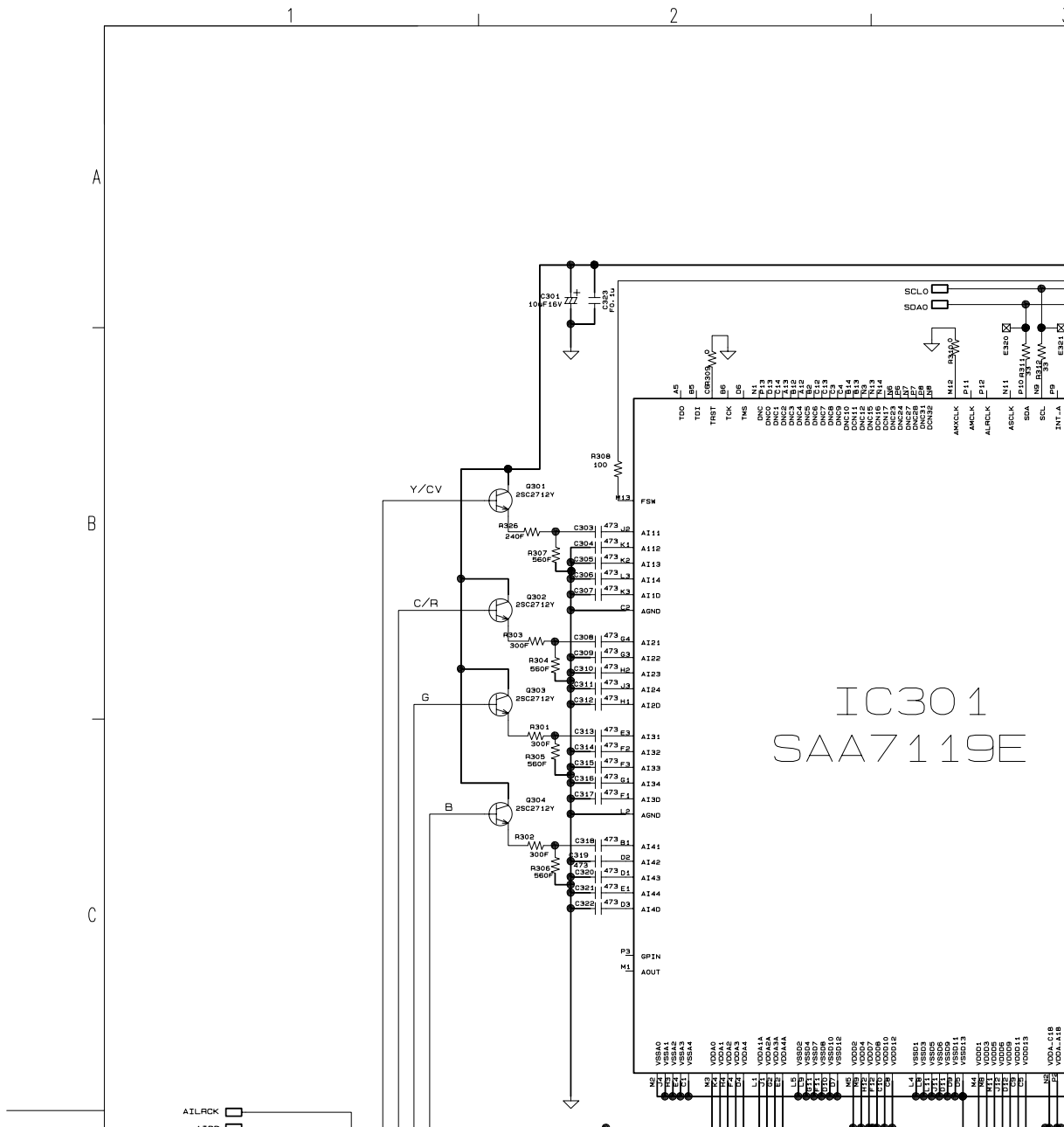
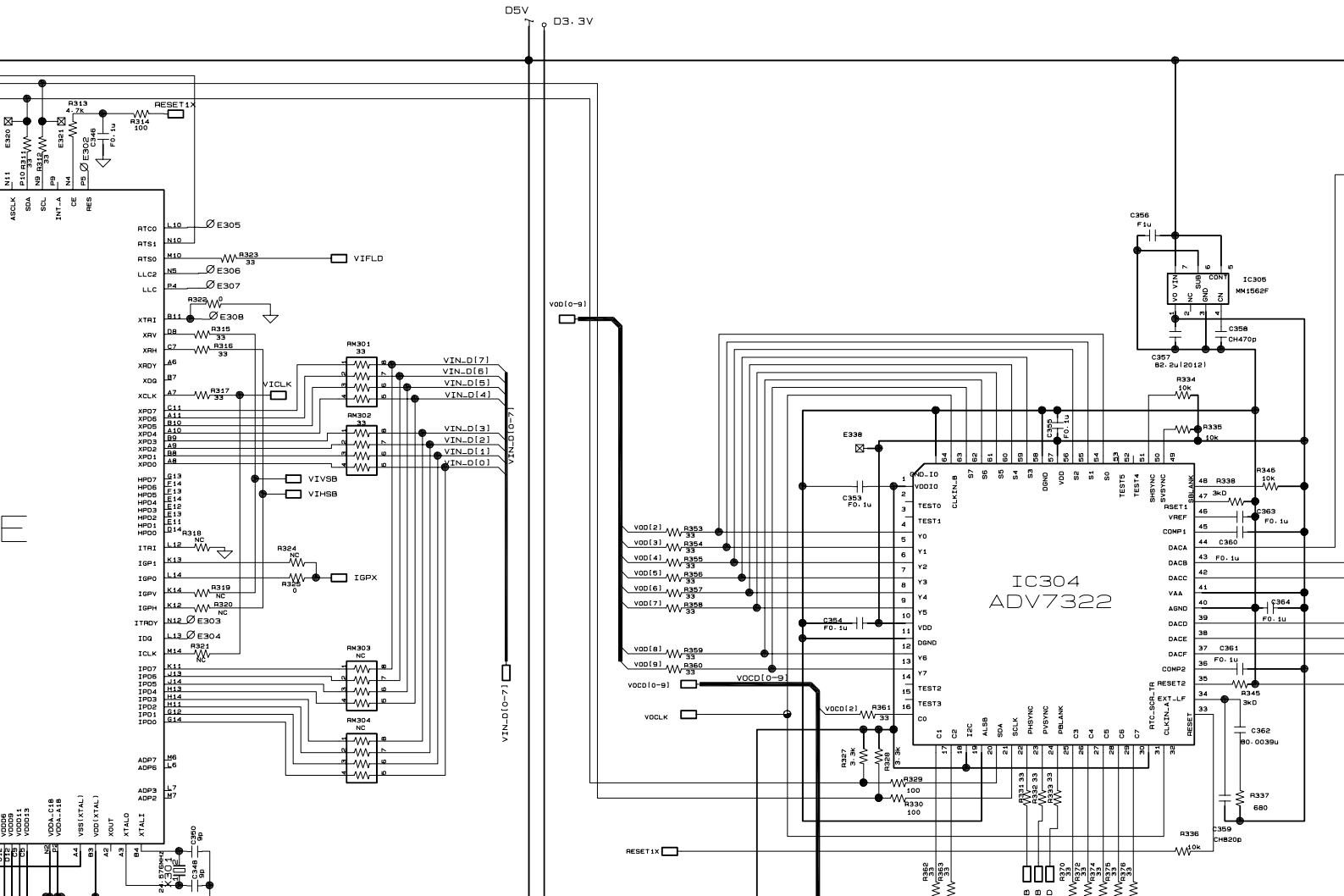


Fig. 3-4-5

4-3-2. Digital 2 Circuit Diagram

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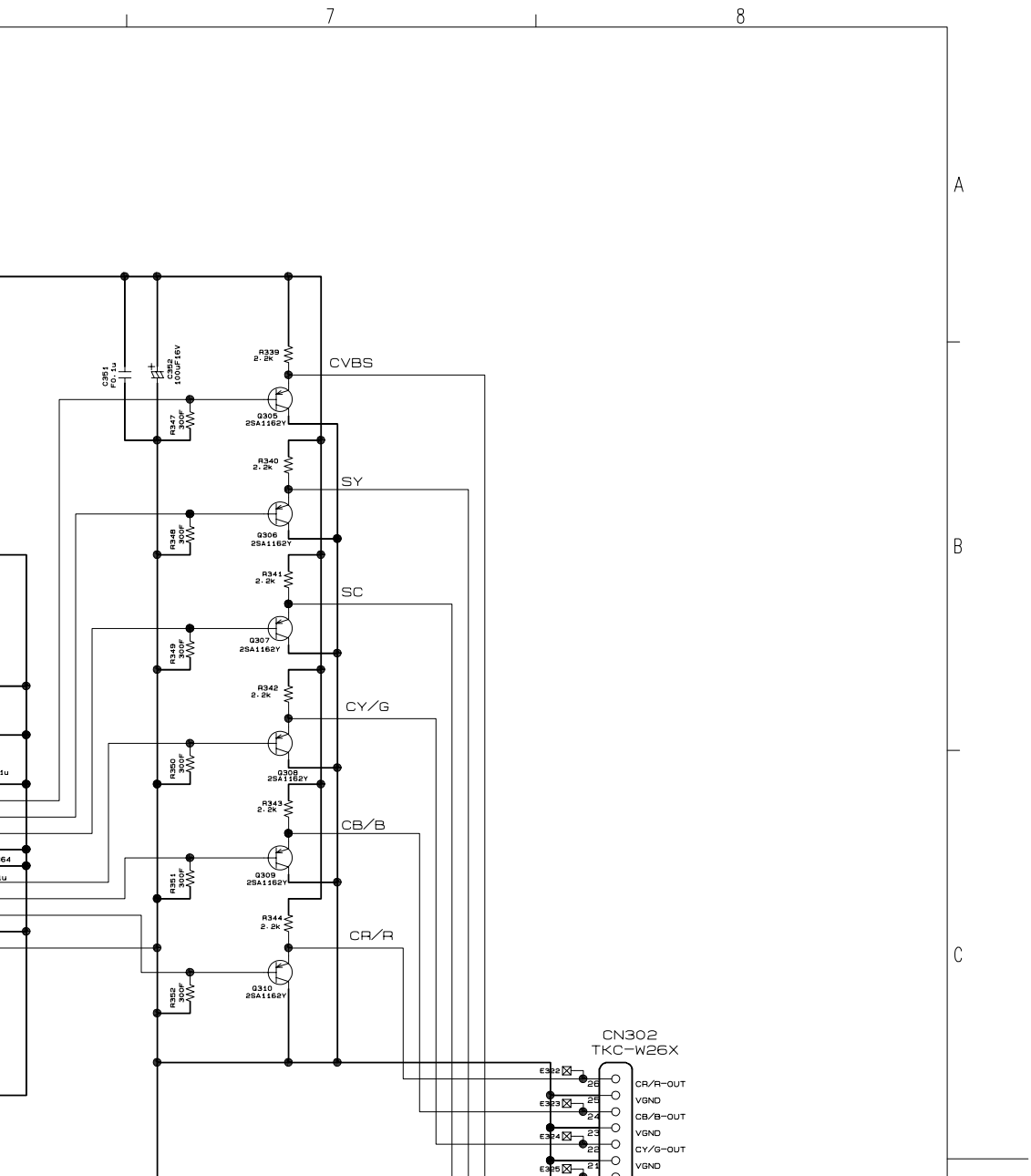
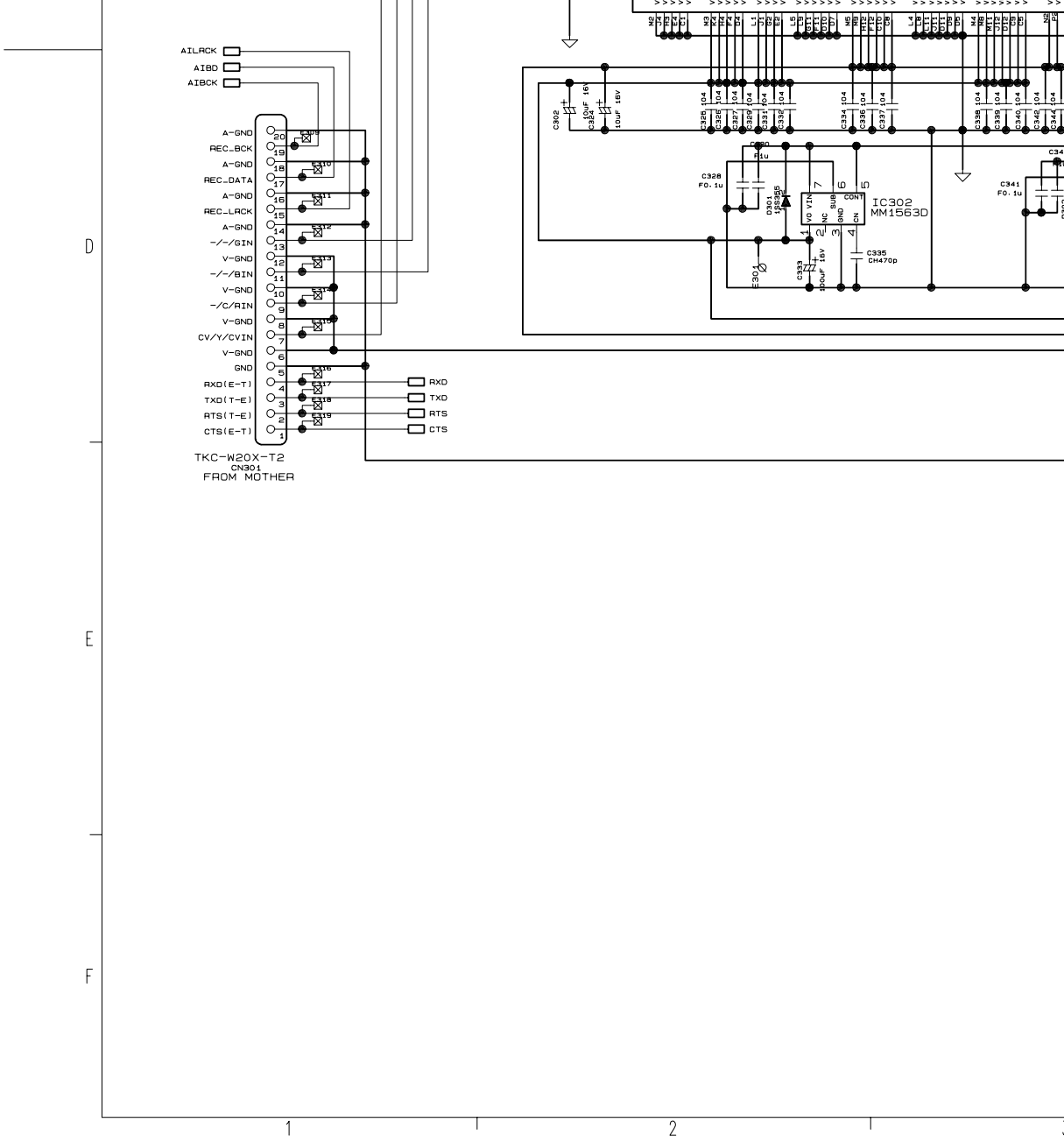
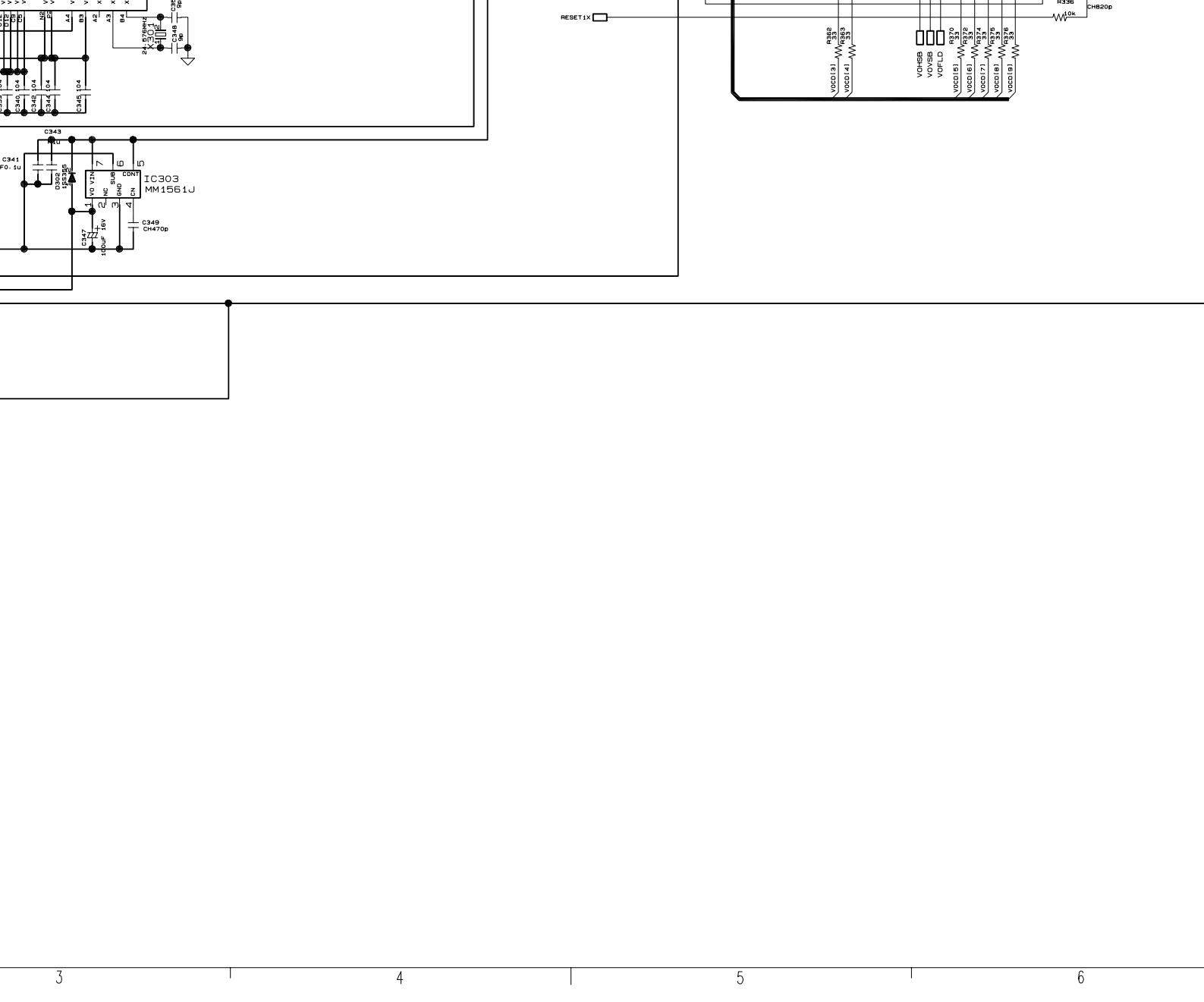
D3.3V
IC304
ADV7322
IC305
MM1562F
VIN_D[0-7]
VOD[0-9]
VOCD[0-9]
VICLK
VIHSB
VIVSB
VIFLD
IGPX
RESET1x


7
8
A
B
C
CVBS
SY
SC
CY/G
CB/B
CR/R
C351
0.1uJ
C352
100uF16V
R339
2.2K
R340
2.2K
R341
2.2K
R342
2.2K
R343
2.2K
R344
2.2K
R347
300F
R348
300F
R349
300F
R350
300F
R351
300F
R352
300F
Q305
2SA1162Y
Q306
2SA1162Y
Q307
2SA1162Y
Q308
2SA1162Y
Q309
2SA1162Y
Q310
2SA1162Y
CN302
TKC-W26X
E322
E323
E324
E325
26
25
24
23
22
21
CR/R-OUT
VGND
CB/B-OUT
VGND
CY/G-OUT
VGND


AILRCK
AIBD
AIBCK
A-GND
REC_BCK
A-GND
REC_DATA
A-GND
REC_LRCK
A-GND
-/-/GIN
V-GND
-/-/BIN
V-GND
-/C/RIN
V-GND
CV/Y/CVIN
V-GND
GND
RXD(E-T)
TXD(T-E)
RTS(T-E)
CTS(E-T)
RXD
TXD
RTS
CTS
TKC-W20X-T2
CN301
FROM MOTHER
IC302
MM1563D
C328
F0.1u
C333
100UF 16V
C335
CH470p
C341
F0.1u
D
E
F
1
2


RESET1X
R336
10k
CHB20p
R362
33
R363
33
R370
33
R372
33
R374
33
R375
33
R376
33
VOHSB
VOVSB
VOFLD
VCCD[3]
VCCD[4]
VCCD[5]
VCCD[6]
VCCD[7]
VCCD[8]
VCCD[9]
C340 104
C343 4u
C344 104
C345 104
C341 F0.1u
D302 1SS355
IC303
MM1561J
VO VIN
NC
SUB
GND
CONT
CN
C347 100uF 16V
C349 CH470p
X301 24.576MHz
C348 18p
B3
B4
A2
A3
A4

3 4 5 6

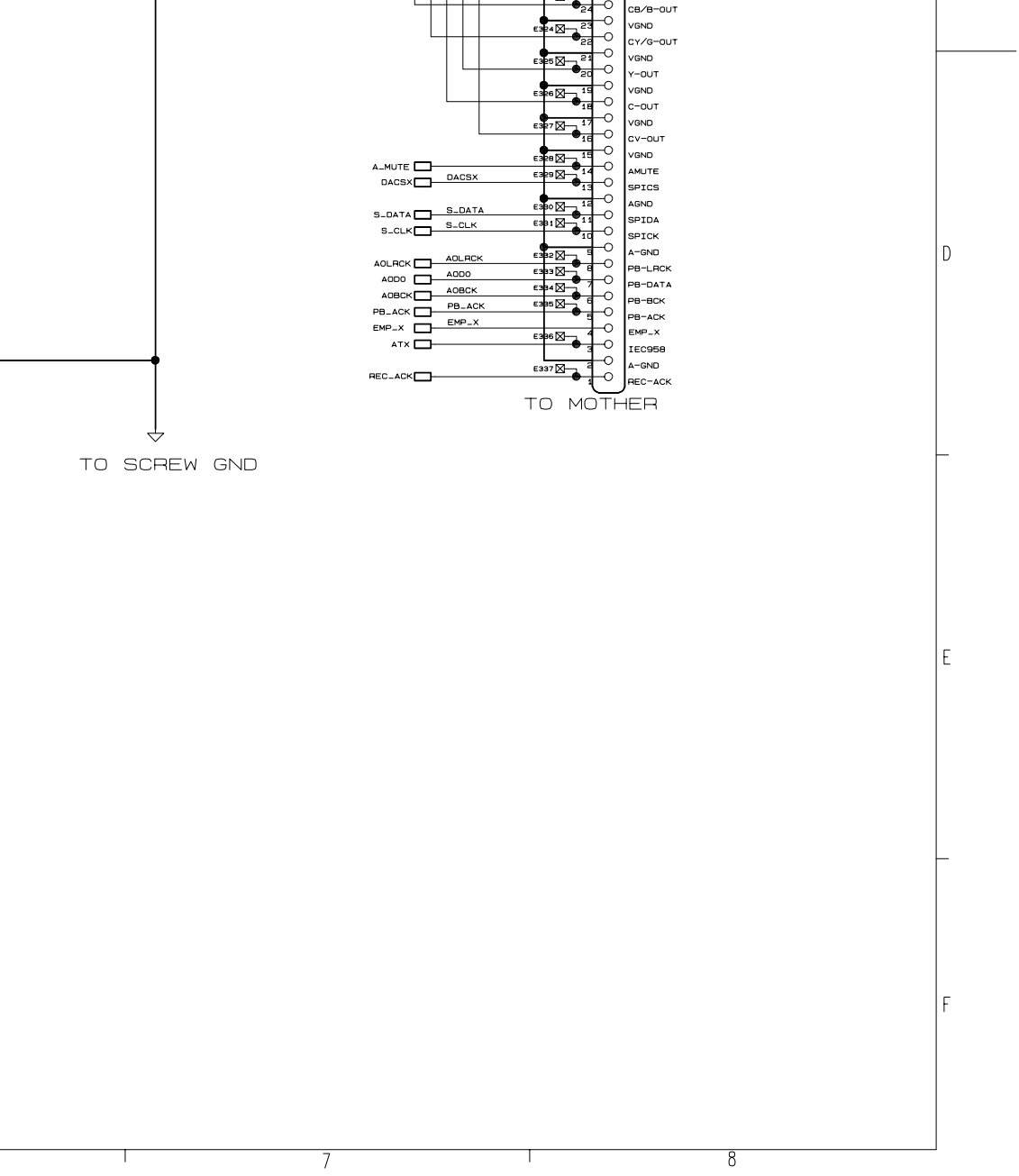

CB/B-OUT
VGND
CY/G-OUT
VGND
Y-OUT
VGND
C-OUT
VGND
CV-OUT
VGND
AMUTE
SPICS
AGND
SPIDA
SPICK
A-GND
PB-LRCK
PB-DATA
PB-BCK
PB-ACK
EMP_X
IEC958
A-GND
REC-ACK
A_MUTE
DACSX
S_DATA
S_CLK
AOLRCK
AODO
AOBCK
PB_ACK
EMP_X
ATX
REC_ACK
TO MOTHER
TO SCREW GND
D
E
F
7
8

Fig. 3-4-5

4-4. Mother Circuit Diagram

4-4-1. Tuner Interface Circuit Diagram

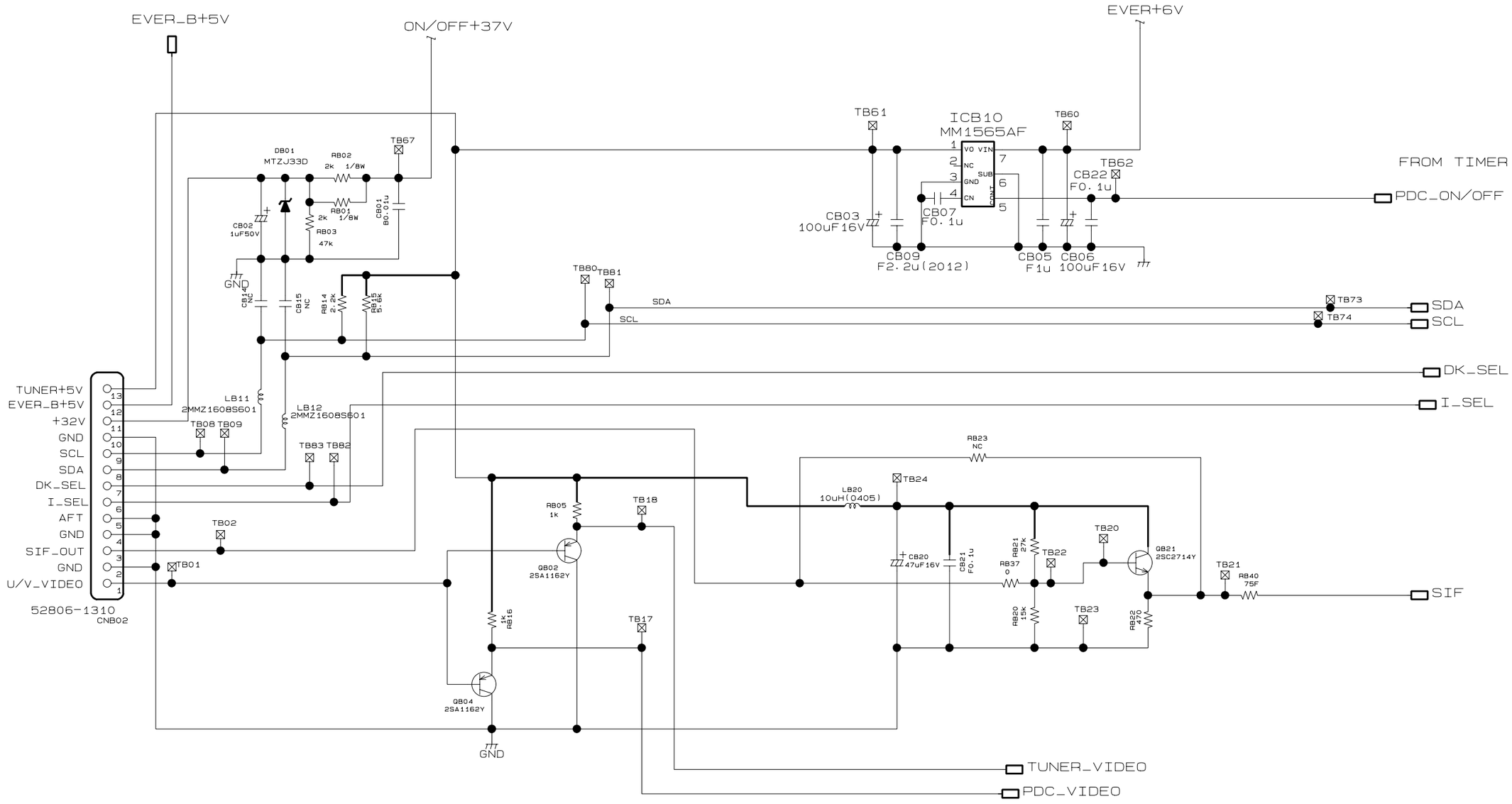


Fig. 3-4-6

4-4-2. Timer Circuit Diagram

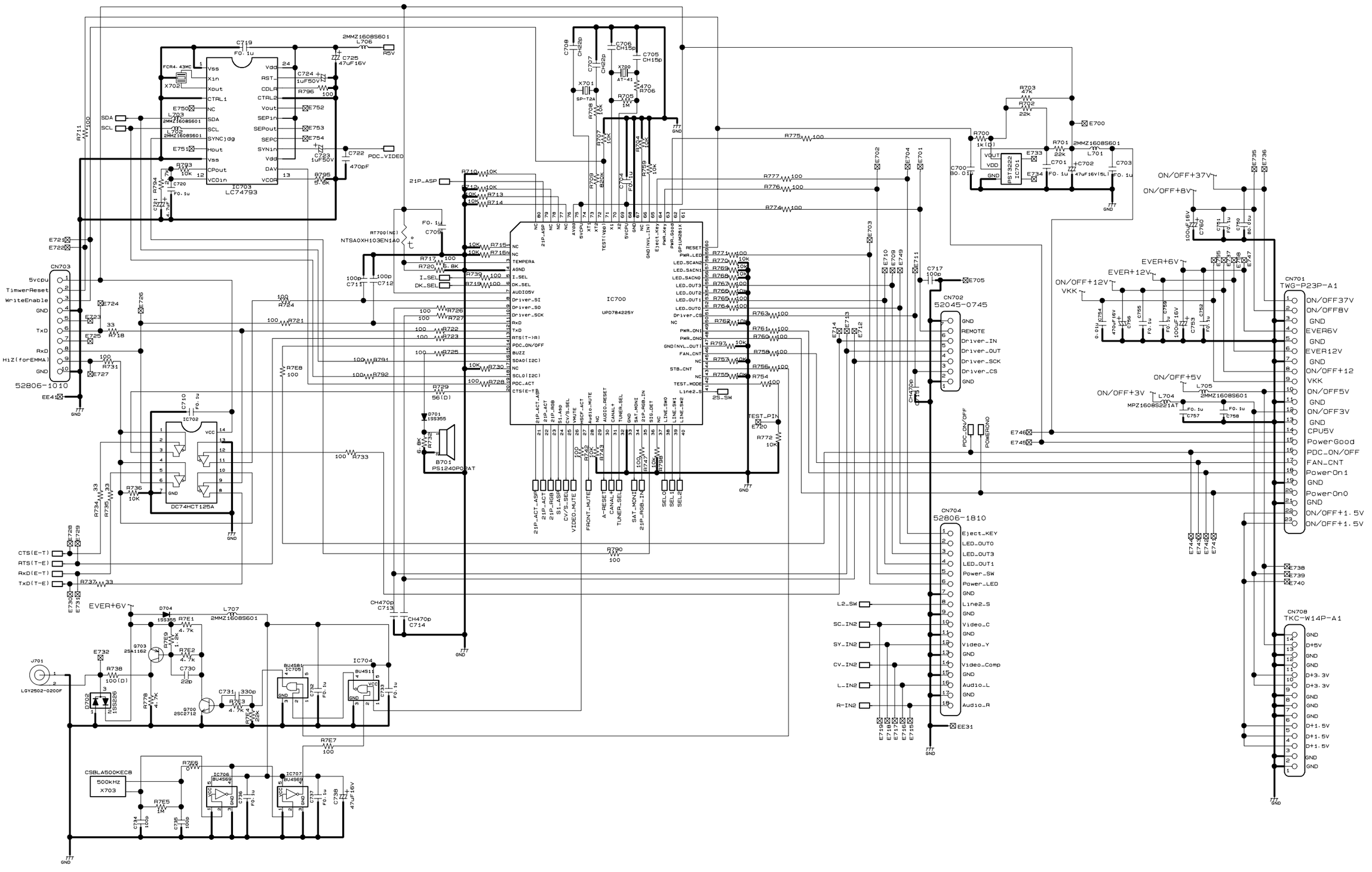


Fig. 3-4-7

4-4-3. Audio Circuit Diagram

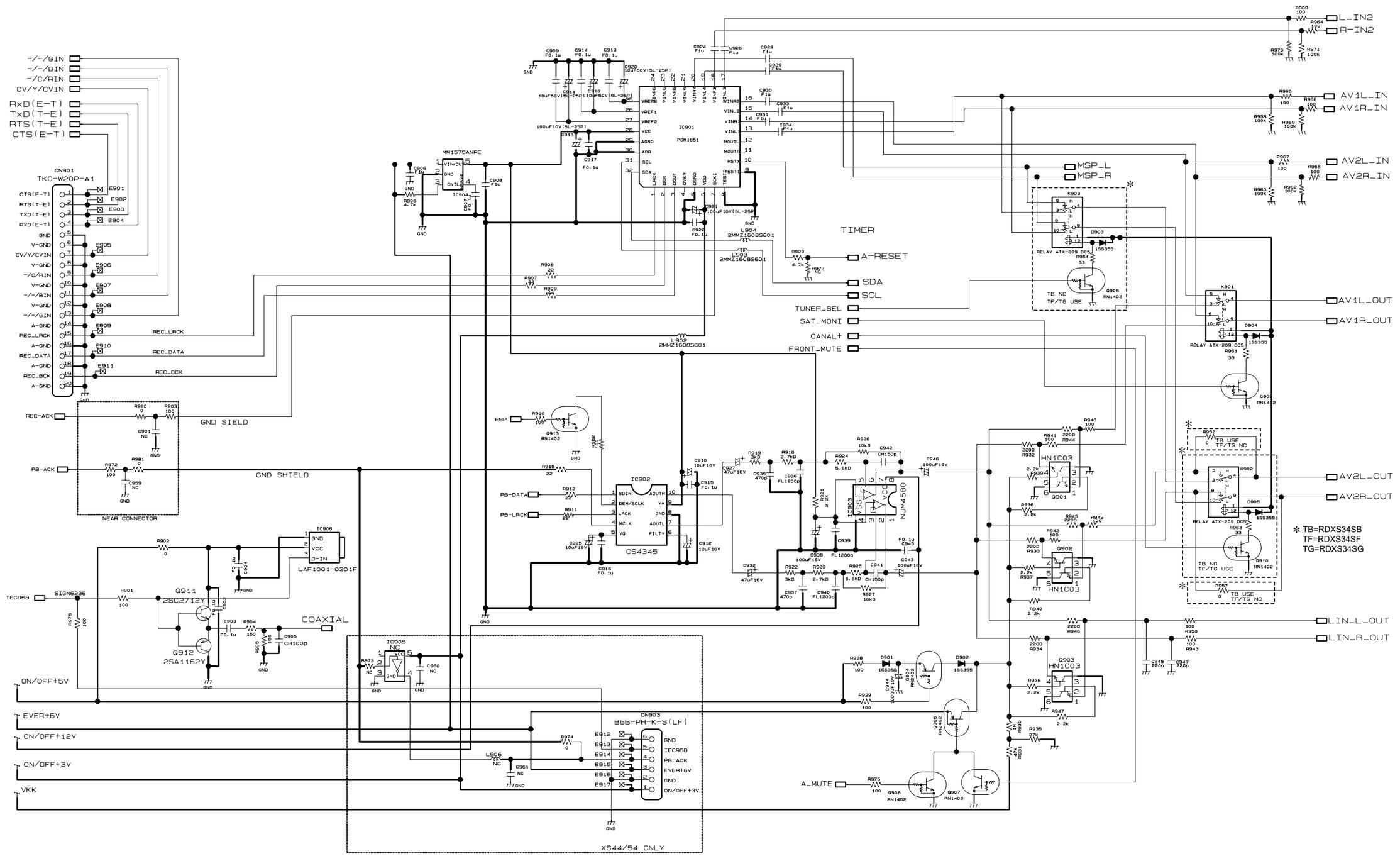


Fig. 3-4-8

4-4-4. Video Circuit Diagram

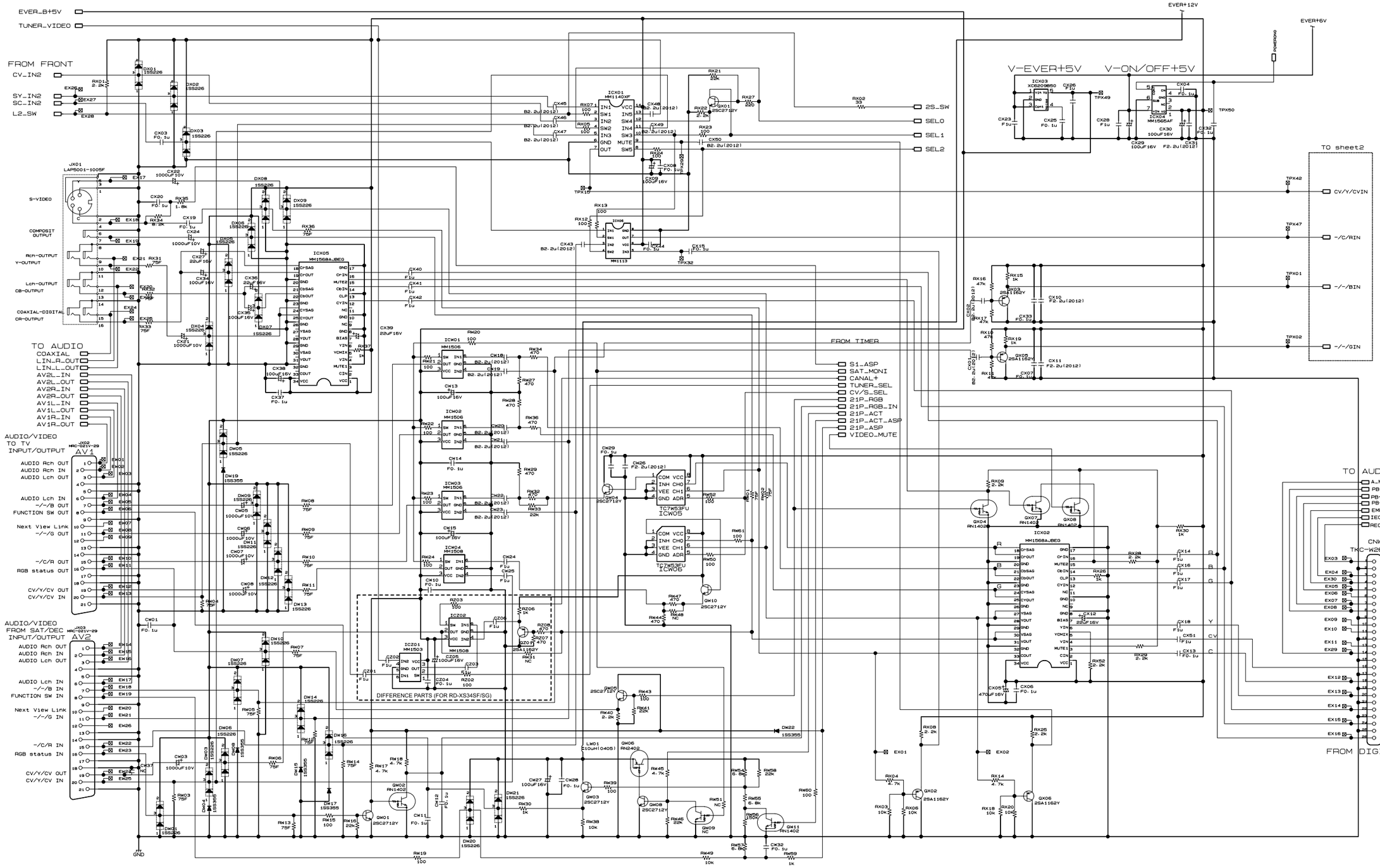


Fig. 3-4-9

4-4-5. MSP Circuit Diagram

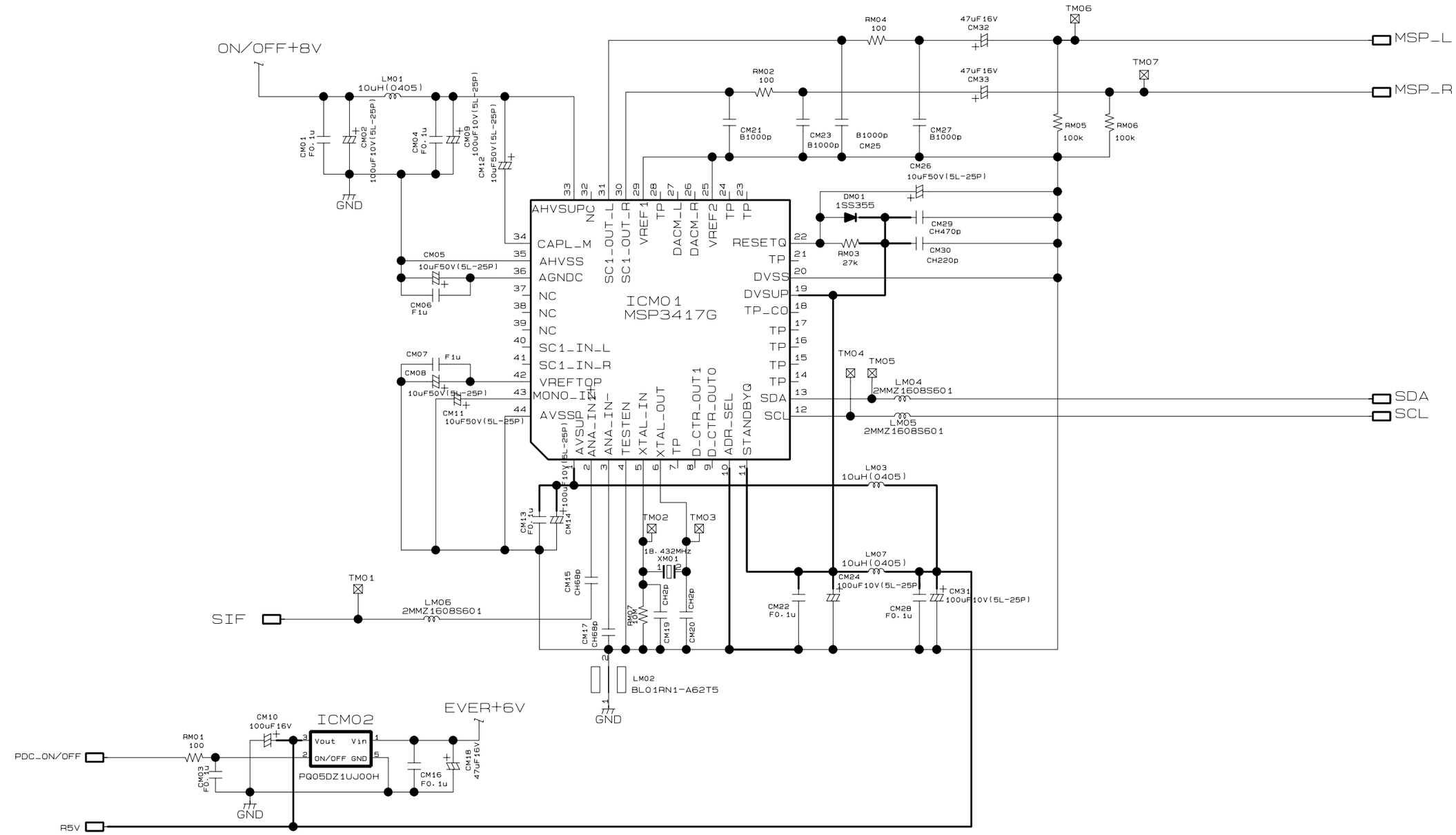


Fig. 3-4-10

4-5. Tuner Unit Circuit Diagram

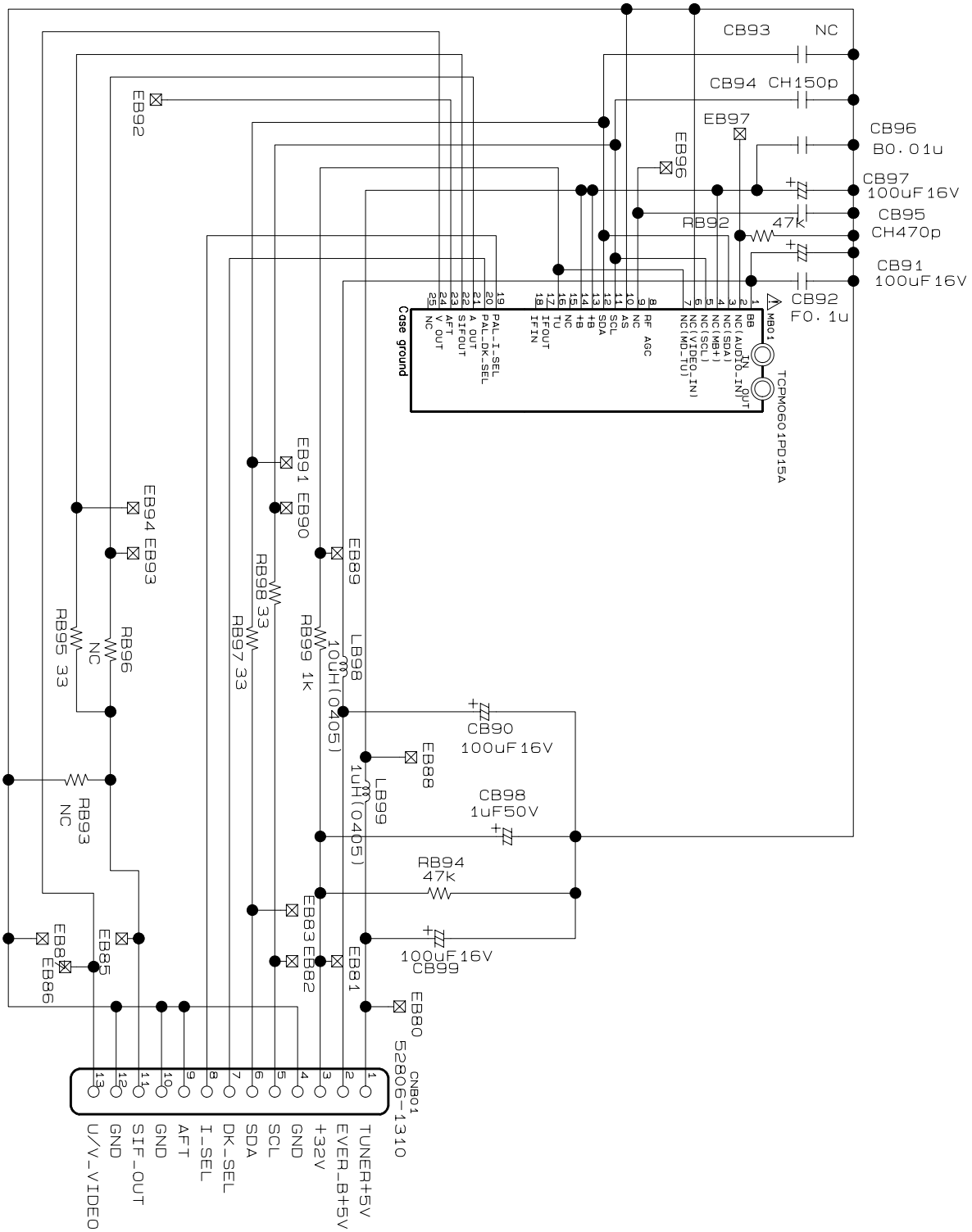


Fig. 3-4-11

5. PC BOARDS

5-1. Front Jack PC Board

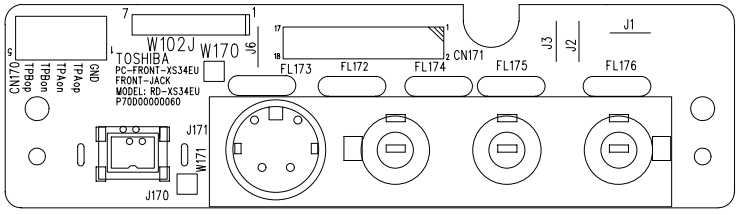


Fig. 3-5-1 EU55 Front Jack PC Broad (Top side)

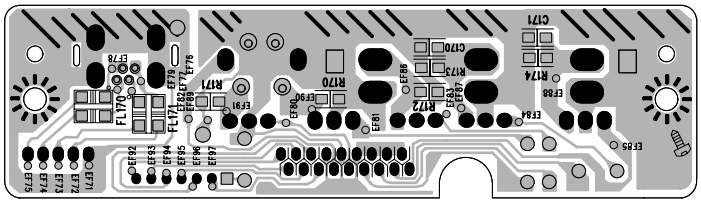


Fig. 3-5-2 EU55 Front Jack PC Broad (Bottom side)

5-2. Front (L) PC Board

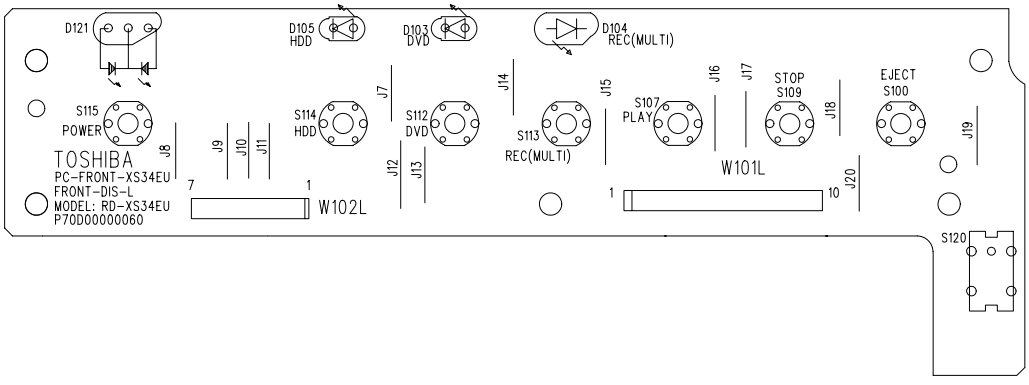


Fig. 3-5-3 EU03B Front (L) PC Broad (Top side)

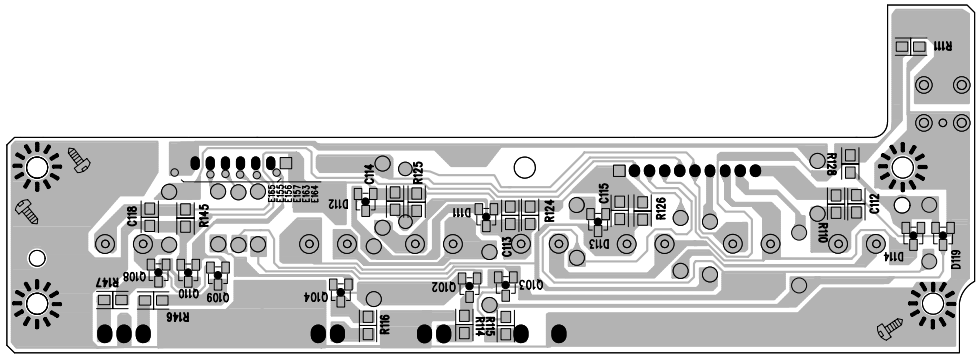


Fig. 3-5-4 EU03B Front (L) PC Broad (Bottom side)

5-3. Front (R) PC Board

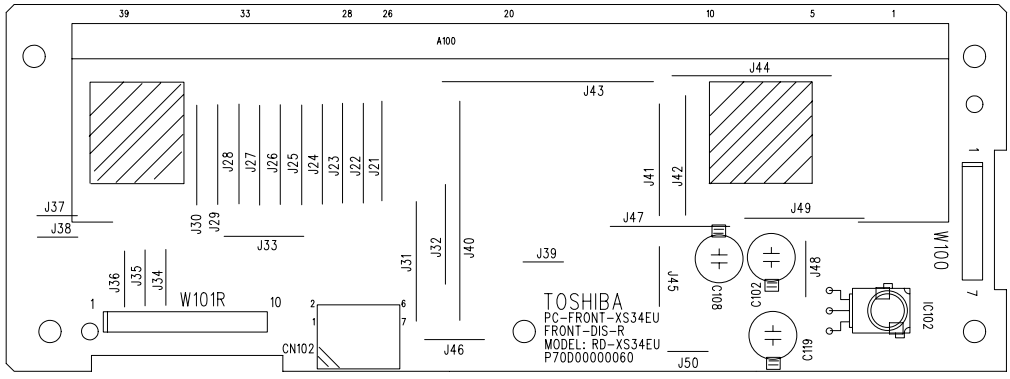


Fig. 3-5-5 EU03A Front (R) PC Broad (Top side)

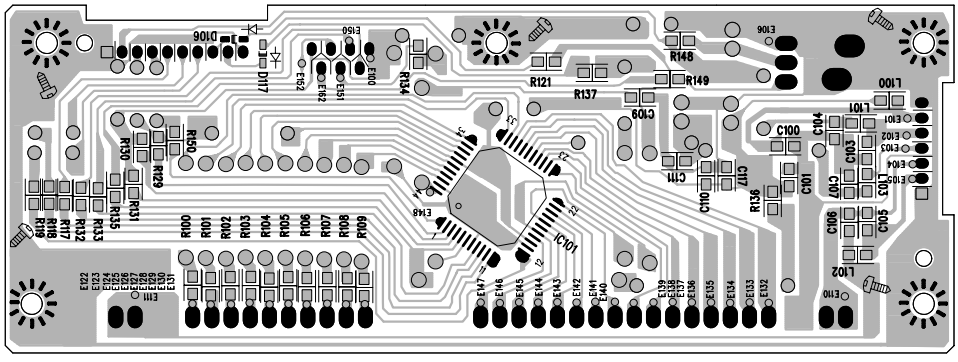


Fig. 3-5-6 EU03A Front (R) PC Broad (Bottom side)

5-4. Tuner Unit PC Board

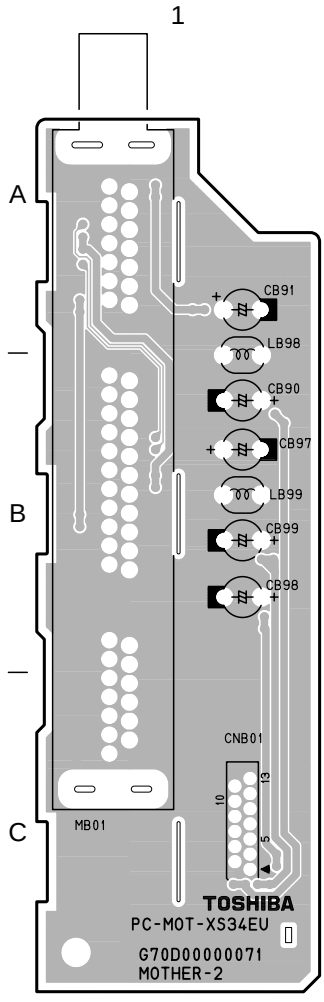


Fig. 3-5-7 EU82 Tuner Unit PC Broad (Top side)

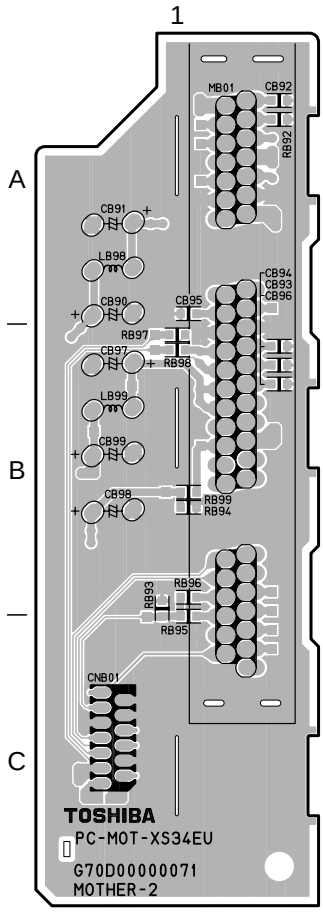


Fig. 3-5-8 EU82 Tuner Unit PC Broad (Bottom side)

5-5. Digital PC Board

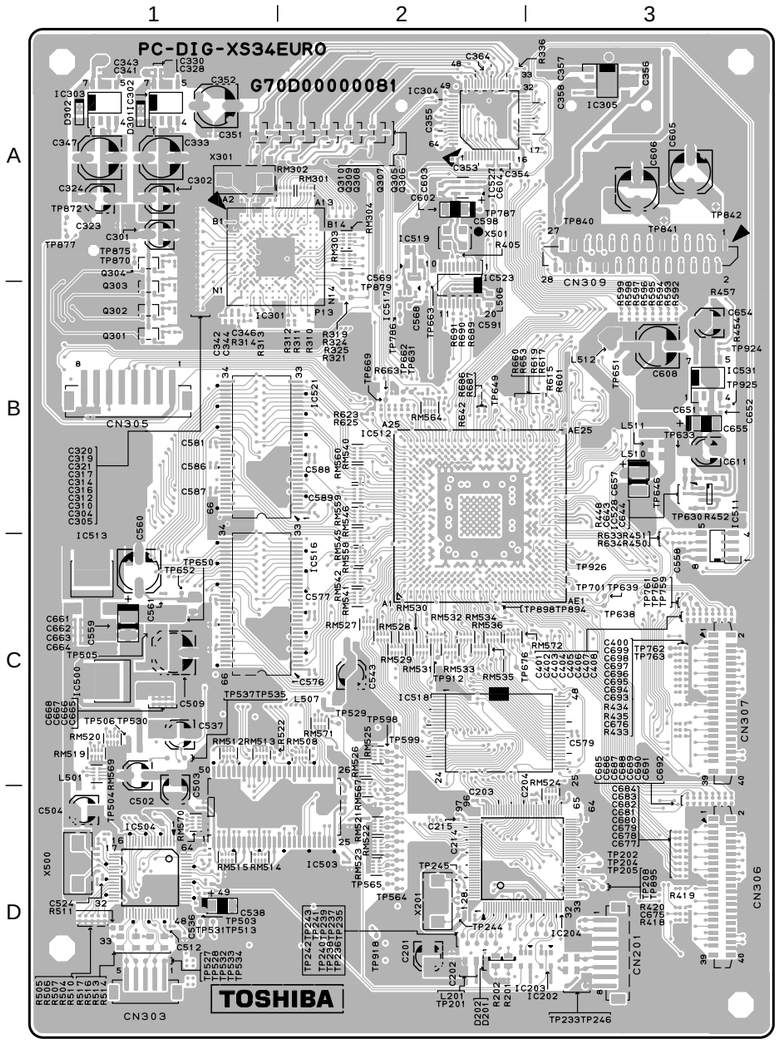


Fig. 3-5-9 EU01 Digital PC Board (Top side)

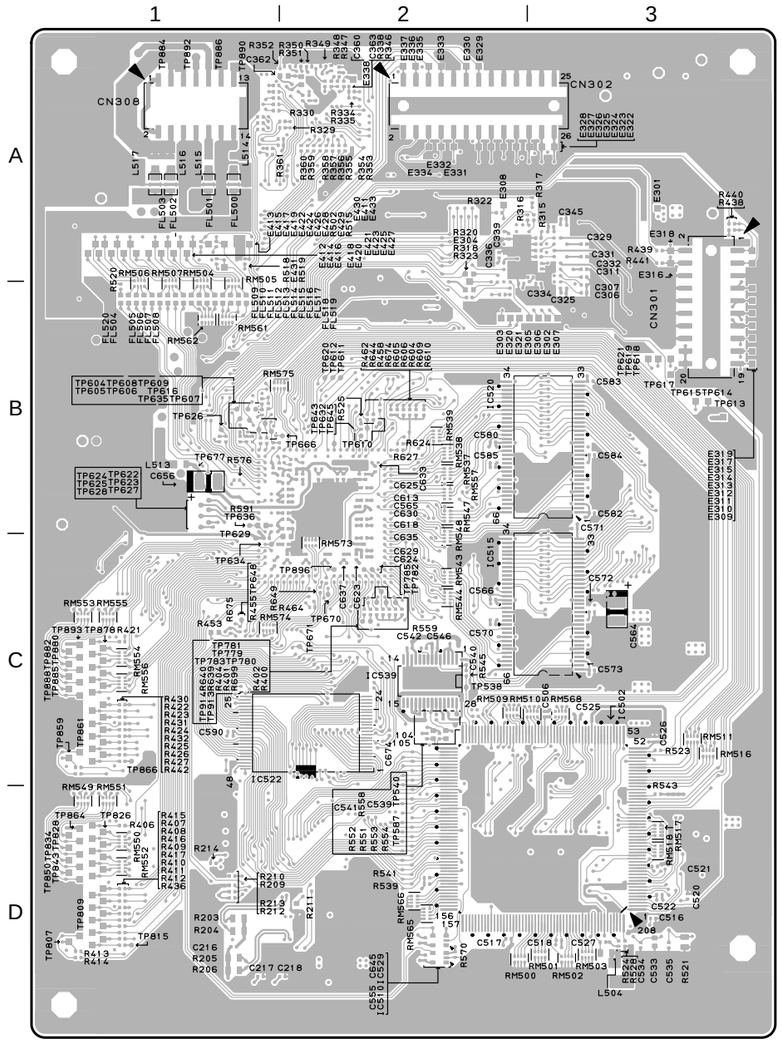


Fig. 3-5-10 EU01 Digital PC Board (Bottom side)

5-6. Mother PC Board

Fig. 3-5-11 EU05 Mother PC Board (Top side)

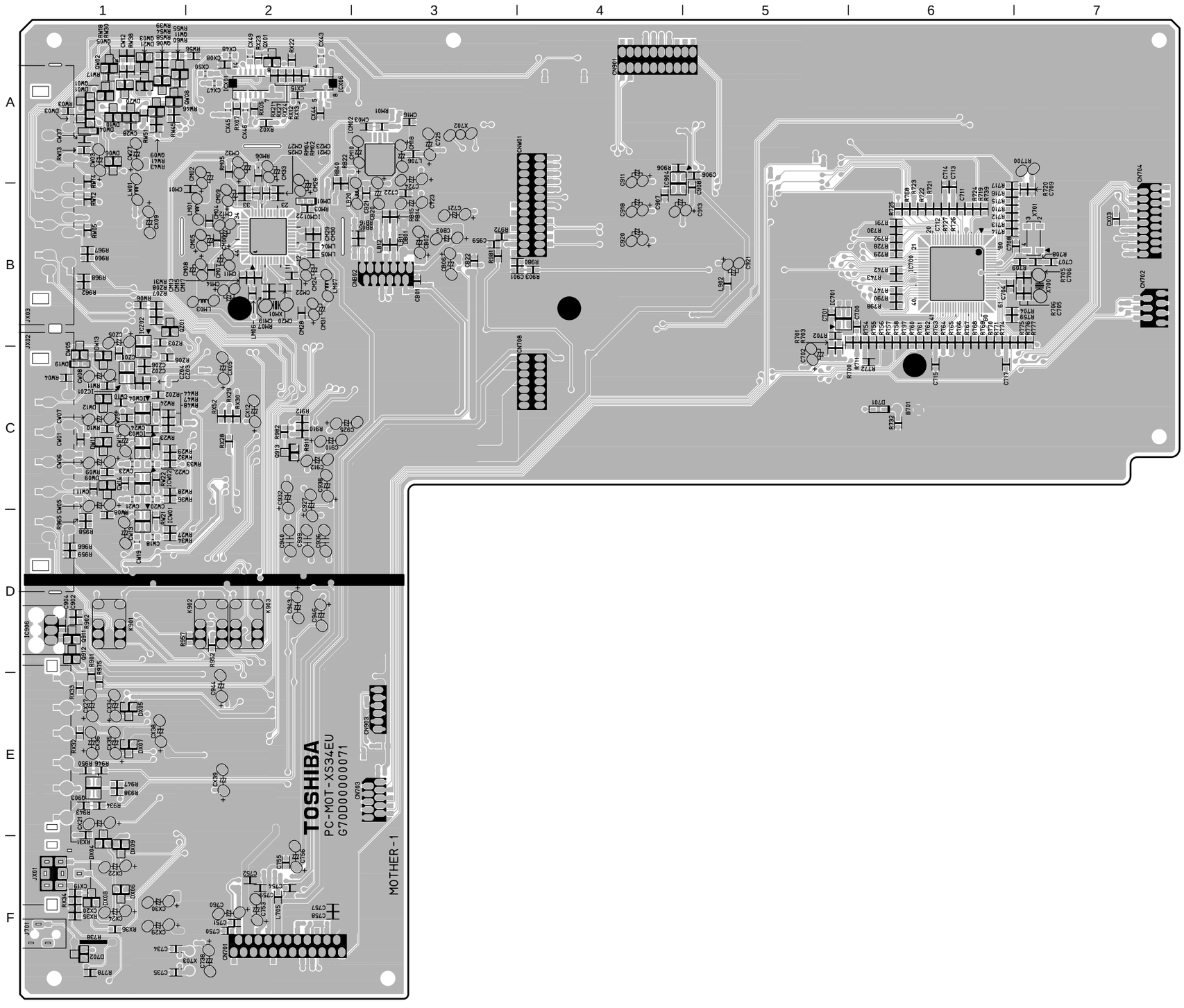


Fig. 3-5-12 EU05 Mother PC Board (Bottom side)